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ABSTRACT

A 1977 review is presented of Florida's State University System, which was conducted by the Commission on the Future of Florida's Public Universities--a blue ribbon commission. The current status of the system and some indications of the importance of high quality universities to Florida's future are considered, and recommendations for improving Florida's public universities are offered. Topics include the following: evolution of the Florida State University System, geographical distribution of programs, academic programs, research and service programs, quality of programs, library resources, reputation of faculty, ratio of students to teaching faculty, size of university endowments and amount of voluntary support, ability to attract external research and development funds, ability to attract good students, evaluation of program quality, and financial support. Florida's tax base and tax potential, economic development in Florida, the ability to attract federal funding and talented students in the future, and the ability of the state to resolve major problems through research and service are also discussed. It is concluded that the success of Florida's public universities in the 1980's requires an emphasis on quality. High-priority recommendations concern the following: increasing the number of scholastically gifted students; funding programs in selected academic disciplines to develop programs of national distinction; upgrading faculty salaries with special emphasis on merit increases and an improved fringe benefit policy; intensifying basic and applied research conducted within the state university system so that it is accessible to other sectors of society; and providing service to adult learners. (SW)

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Commission on the Future of Florida's Public Universities

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Foreword

Higher education is at a critical point in time. Its role in our society must be re-examined and its value reassessed. Indeed, there is a continuing need to consider how the higher education enterprise can be redirected and strengthened to serve societal needs better.

Such a re-evaluation and reassessment is particularly timely in Florida. During the past two decades, Florida's higher education system has gone through a period of explosive growth and expansion. Such expansion has made higher educational opportunities more available to Florida's citizens—as evidenced by the rapid rate of enrollment growth in recent years. However, this rapid growth, combined with rampant inflation, has contributed to serious financial problems. These problems are, in turn, limiting Florida universities' ability to achieve desirable quality goals.

Furthermore, the financial demands associated with the expansion of the System have limited the universities' ability to address many of the State's serious problems—problems which university research and service programs are uniquely capable of addressing and solving.

Florida is now entering a new era in the development of its University System. The period of explosive growth is behind us. The universities now in place can adequately serve the public higher education needs of the State for decades to come.

In view of these circumstances, now is a most appropriate time to reassess the status of Florida's University System and to plan for its future.

Such a reassessment and reorientation has been underway internally for some time as the System has carried out its Management Improvement Program, a Role and Scope Study, an Academic Program Review and other related efforts. As a part of such efforts, it has been appropriate and timely to seek an *external* review of some of the critical issues facing the University System along with recommendations which might help guide the future development of the System.

Accordingly, in early 1977, we asked a group of distinguished Florida citizens to constitute a Commission on the Future of Florida's Public Universities, to engage in a review of the System's efforts, and to make recommendations for future action. The Commission is made up of a broad geographical and professional cross section of Florida citizens. In constituting the Commission, we sought to involve various segments of the educational community, including the public school and community college systems, the independent sector of higher education, and university students and faculty members.

The Commission's report can logically be divided into two major sections. The first deals with an assessment of the current status of the System along with some indication of the importance of high quality universities to Florida's future.

The second major section deals with the recommendations of the Commission which are aimed at improving Florida's public universities to enable these institutions more effectively to serve the future needs of the State.

At the beginning of the report, a summary is included which provides a quick grasp of the contents of the full report.

We in the University System are greatly indebted to the members of the Commission for the time and effort they contributed to this process. Theirs has been a distinctive and selfless public service. We are confident that the University System—indeed the State of Florida—will benefit greatly from their efforts.

E. T. York

Chancellor

5 **Summary**

15 **Assessment of the State University System**

16 **Evolution of the State University System**
18 **Geographical Distribution of Programs**
19 **Academic Programs**
21 **Research and Service Programs**
23 **Quality of Programs**

Library Resources

Reputation of Faculty
Nobel Laureates
National Academy of Sciences Membership
Peer Evaluation of Faculty

Ratio of Students to Teaching Faculty

Size of University Endowments and Amount of Voluntary Support
Endowments
Annual Voluntary Support

Ability to Attract External Research and Development Funds

Ability to Attract Good Students

Evaluation of Program Quality
Graduate Programs
Professional Schools
Education, Law, and Business

35 **Financial Support**

Support Per Capita and Level of Personal Income
Support Per Student
Salary Levels
Appropriations for Universities Over the Last Decade
The Adequacy of Current Financial Support

40 **Florida's Tax Base and Tax Potential**

Higher Education's Share of Total State Budget
Florida's Tax Base
Florida's Tax Potential

42 **Florida's Universities and Florida's Future**

Economic Development
Ability to Attract Federal Funding
Ability to Attract and Hold Talented Young People
Ability of the State to Resolve Major Problems Through Research and Service

49 **Recommendations of the Commission**

49 **Overview**
51 **High Priority Recommendations**
53 **Specific Recommendations**

Faculty
Faculty Compensation
Faculty Assessment
Tenure Study
Need to Maintain Standards
Faculty Renewal and Development
Use of Adjunct Professors
Differential Faculty Abilities
Reward for Superior Teaching

57 Students
Admissions
Outstanding Students
Criteria for Learning Assessment
Statewide Access to Instruction
Branch Campuses and Centers
Alternatives for Access
Adult Learners
Career Counseling
Degree Requirements

62 Programs and Process
Programs of National Distinction
Research
Academic Program Review
Curricular Reform

66 Supporting Resources
Libraries
Role and Scope of Central Office
Scientific and Technical Equipment
Supporting Personnel
Graduate Assistantships

69 Contact, Cooperation, and Coordination
Coordination of Educational Levels
Independent and Public Institutions of Higher Education
Interdependence of Public Schools and Universities
State's Development Through the Universities
Consolidation
Mutual Benefit for Alumni and the Universities
Use of Faculty Expertise and University Facilities
University Response to Communities
Faculty Engaged in Educational Outreach

74 Funding the State University System
Tax Support
Private Funding
Individual Role and Scope
Budget Process
Student Financial Aid
Flexible Fee Policy

79 **Afterword**

ommendations

Overview

The success of Florida's public universities in the 1980s requires an emphasis on quality. Over the past eighteen months, the Commission on the Future of Florida's Public Universities has completed an extensive review of the State University System, the "SUS." Our assessment is that the SUS must focus on 'hese new priorities:

- The quality of programs in our public universities should be enhanced while the present high degree of student access to higher education is maintained so that Florida may be included among the top twenty states in higher education by 1990.
- The quality of service rendered by our public universities to business, government, and the general citizenry should be enhanced by increasing access to university expertise and the results of university research.
- The level of funding for our public universities must be upgraded to reflect the critical role that the SUS must be able to play in protecting and advancing the quality of life for the people of Florida.
- Coordination among all sectors of education in Florida should be improved to provide for the effective and efficient use of educational resources.

The State of Florida, in building its university system, has effectively developed one of the most diverse, productive, and geographically extended networks of public universities in the nation. The broad extension of higher education within Florida has been accomplished at the cost of tremendous effort because the citizens of the state, their legislative representatives, and university system personnel have had a common goal. This Commission recognizes the potential for this network of scholars, students, and facilities that is the state's university system to be one of the most potent forces for the future of Florida.

Since ease of geographical access to instruction has been a high-priority policy of the State of Florida during the years of recent growth, future needs for ready access may be met by changes in emphasis, creative use of existing facilities, and limited physical expansion. But access alone can no longer dominate the goals of the university system. Neither for the individual student nor for society as a whole is it fair to emphasize access to higher education without now

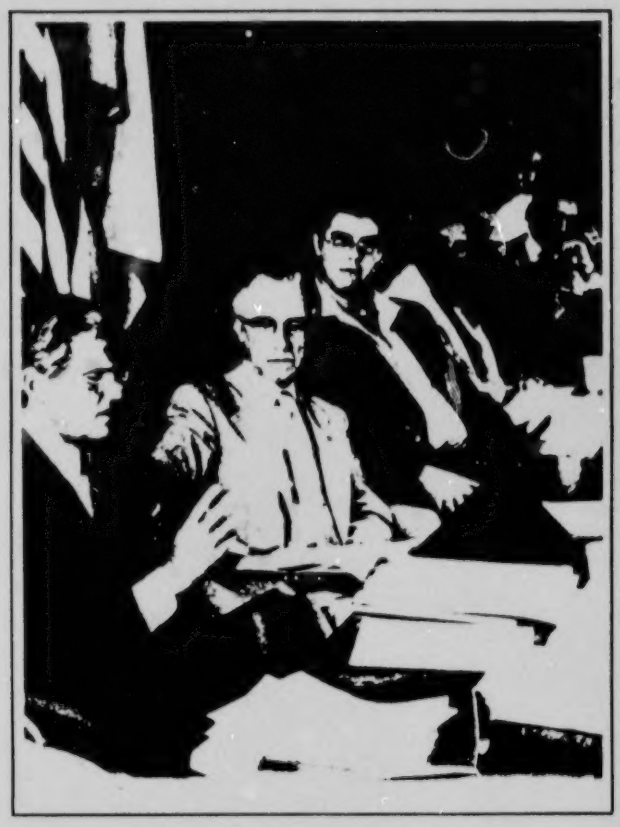
How It All Began

Recognizing the vital role which Florida's State Universities must play in Florida's future, Chancellor E.T. York early in 1977 constituted a Commission on the Future of Florida's Public Universities.

This Commission, made up of a group of distinguished Florida citizens, was asked to study and make recommendations for improving Florida's State Universities—and to give particular attention to the changes needed to enable these universities to do a better job of serving Florida's needs during the next decade.

The first half of the Commission Report highlights some of the progress already made by the State University System and emphasizes some of the problems and potentials of the System. The second half of the Report contains concrete and specific proposals of actions to be taken. This brief introduction summarizes the Commission's Report.

Assessment



Florida's accomplishments

How completely and effectively is the State University System serving the public higher education needs of Florida today?

By some measures—*extremely well!*

Indeed, during the past two decades, the State of Florida has made a major commitment to expanding its higher education system and, in so doing, has given its citizens a wide range of readily accessible programs.

For example, in less than 20 years—

Six new universities have been added—

University of South Florida, Tampa,
Florida Atlantic University, Boca Raton,
Florida Technological University, Orlando,
University of West Florida, Pensacola,
Florida International University, Miami, and
University of North Florida, Jacksonville—

to the original three—

University of Florida, Gainesville,
Florida State University, Tallahassee, and
Florida A&M University, Tallahassee.

Branch campuses and off-campus centers have been established in the densely populated areas to make educational programs more accessible to the people of the State.

New professional programs in such fields as medicine, dentistry, veterinary medicine, and architecture have been added to provide a broad range of educational opportunities.

With such expansion, a university program is now in commuting distance of most Floridians.

People are availing themselves of these opportunities as evidenced by the fact that enrollment in the State University System has increased almost six-fold in less than two decades—from 23,713 in 1959 to 118,042 in 1977.

In addition to accommodating greatly increased numbers of students, the University System has demonstrated its ability to assist the State and its citizens through a wide variety of *research and service programs*.

The University of Florida's Institute of Food and Agricultural Sciences, for example, with research and education centers located strategically throughout the State, has made a major contribution to the State's economy by undergirding and making possible Florida's multi-billion dollar agricultural industry.

Floridians can be very proud of the progress made thus far in the development of its University System. In fact, few states have done more than Florida to make higher educational opportunities more available or accessible to their people.

Desite this significant progress, however, the task of developing Florida's University System is only partially completed—some would say only half done. Because the period of quantitative growth and development is largely behind us, primary attention must now be directed towards the qualitative improvement of existing programs and effort.

The need for quality improvement

The need for quality improvement is amply demonstrated when Florida's public universities are compared to universities in other states and when the universities are measured by accepted national standards.

Libraries—Many would contend that the library is the heart of a university. Certainly quality programs cannot be achieved without adequate library resources.

In 1975–76, the combined total of library volumes in all nine of Florida's State Universities was less than that of the University of Illinois alone. Further, the University of Michigan and the University of California at Berkeley—two of the best public universities in the nation—each had almost as many volumes as the entire Florida System.

The Florida legislature, however, has recently made substantial special appropriations for the improvement of University System libraries, and these special appropriations need to be continued.

Reputation of Faculty—Distinguished faculty members help to create an atmosphere which will attract aspiring and talented young faculty members, outstanding students, outside funds, and national recognition. The University System therefore has much to gain from improving the quality of its faculty.

- *Nobel Laureates.* Florida universities have yet to produce a Nobel Laureate. Although one Nobel recipient is affiliated with Florida State University, he joined the faculty there after his retirement elsewhere at the age of seventy. By contrast, the University of California has 15 faculty members with such distinction—with a total of 27 Nobel Laureates in California's public and private universities.

- *National Academy of Sciences.* Florida universities can claim to have only a handful of faculty members who belong to the prestigious National Academy of Sciences. The states of Texas and North Carolina, with two of the best public universities in the South, each has more than twice the number of Academy members as Florida. The University of California System has some 20 times the number of Academy of Sciences members as the Florida University System even though the two Systems are approximately the same size.

- *Graduate Faculties.* A comprehensive study by the American Council on Education of the quality and effectiveness of graduate faculties in 36 different disciplines indicated that Florida had only one discipline in which its faculty was ranked in the top 20 among institutions nationally. By contrast, the University of Texas had 17 faculties so ranked; the University of Michigan, 32; and the University of California-Berkeley, 35.

- *Medical Faculties.* In a recent study funded by the National Science Foundation, some 2,000 faculty members at U.S. medical schools were asked to rate the faculty and program quality at 94 medical colleges throughout the nation. In this study the University of Florida program was ranked 36th nationally. Eight southern universities had medical faculties ranked above the highest ranking faculty in Florida.

Reputation of Programs—In a national study of the quality of 18 different professional fields of study, Florida universities had no programs which were ranked among the top 5 to 12 nationally.

By contrast, 14 other southern institutions had one or more programs receiving such high rankings. Further, Florida and Louisiana were the only states among the 25 most populous states in the nation which had no university programs ranked in this study.

Further, no public university in Florida had any programs ranked in the top 20 nationally by an American Council on Education study. By contrast, the University of Texas had 17 so ranked; the University of Michigan, 32; and the University of California at Berkeley, 35.

Ratio of Teaching Faculty to Students—If the student-teacher ratio is any index of quality, Florida's public universities have suffered.

Each Florida faculty member has on the average many more students to teach today than two decades ago. Indeed, the increases in faculty "workload" during this period are equivalent to adding to the System a student body the size of the University of South Florida without adding any new faculty members.

External Funding—It is a known fact that most federal contract and grant funds go to institutions which have well recognized faculties and programs.

In 1975, Florida had only one public university, the University of Florida, which ranked among the top 100 in the nation in the level of federal contract and grant funding. The total fedeal funds allocated to the nine public Florida universities were substantially less than that granted to the University of Michigan alone or to the University of California campuses at Berkeley and Los Angeles, taken alone.

Private Support—Private support for universities is also a measure of quality. The total endowment for the nine universities in the Florida System is less than half that of the University of North Carolina alone, less than ten percent of that for the University of Michigan, and some two percent of that for the University of California System.

Ability to Attract Good Students—A university's ability to attract outstanding students is still another measure of its reputation for high quality programs.

Although many of Florida's most able high school graduates are remaining in the State for their college education, a significant number of the State's very best students are electing to go to distinguished universities outside Florida with reputations for programs of highest quality. One indication of this is the fact that approximately one half of Florida's National Merit Scholars are continuing their education at a university outside the State.

Why we fail to measure up

There are undoubtedly a number of reasons why Florida universities fail to measure up to institutions in other states. One obvious reason is the fact that six of the nine universities in the Florida System are relatively new—and great universities are not created overnight.

Another factor which has unquestionably limited the achievement of quality goals in Florida's universities has been an inadequate funding base.

Financial Support—There are, of course, no precise standards by which levels of financial support for a university or a state's higher education system may be evaluated. That is to say, each state—indeed, each university—has a different mix of programs and students, making precise comparisons between states and universities difficult, if not impossible.

Despite this fact, there are a number of indices which—collectively—can show how well university programs are funded.

- *Support Per Capita and Level of Personal Income.* Two commonly used indirect measures of financial support for higher education relate to the size and income level of the State's population. They are: (1) support per capita and (2) support per $1,000 of personal income. In neither measure does Florida rank very high among the states. Only one southern state ranks lower than Florida in higher education appropriations per capita. No southern state ranks below Florida in appropriations for higher education per $1,000 of personal income.

- *Faculty Salaries.* Outstanding universities are, in large measure, the product of outstanding faculties. There is intense competition nationally among universities to attract faculty members who have demonstrated superior abilities and, in turn, have developed national and international reputations. The ability of universities to attract and hold the most highly qualified faculty members is dependent, in large measure, upon their ability to pay competitive salary rates. Three widely accepted studies of faculty salaries nationally indicate that faculty salaries in Florida's State University System would need to be increased approximately 7% to reach the national average.

- *Expenditures per Student.* Whether using figures compiled by the Department of Administration or the Department of Education, Florida's expenditure in constant dollars per student declined in recent years.

The Department of Administration—using a student as a "workload unit"—determined that funding per university student declined 10% in constant dollars from 1968 to 1977, while expenditures per workload unit for state government generally were going up by almost 27%!

Data gathered by the Florida Department of Education indicate that constant-dollar expenditures per student in Florida higher education went *down* 22% in the years from 1965 to 1975, while the constant dollar expenditure per student nationally in higher education went up 32%.

With such a differential in funding, it has become increasingly difficult to remain competitive with universities in other parts of the nation.

Florida Tax Base and Tax Potential—Although Florida has historically given its universities a slightly larger share of state revenues than the average state does, Florida's universities still suffer financially because of the state's relatively low level of tax

Several studies show that Florida ranks near the bottom in terms of taxes per resident.

For example, in 1976 the U.S. Chamber of Commerce states that Florida ranked 41st in its per

capita generation of state and local taxes. While some may attribute this low ranking to the large number of retirees in Florida, the sales tax income received from tourists tends to offset the possible effects of the retired population. In short, per capita taxes in Florida are low.

Even more telling, however, is the fact that Florida ranks 48th among the states when state and local taxes are treated as a percentage of personal income. In other words, 47 other states take a larger percent of its residents' income in state and local taxes than Florida does.

It is readily apparent that Florida underutilizes its tax potential when compared with other states. Indeed, a study by the Southern Regional Education Board—a creature of the governments of 14 southern states—shows that Florida ranks 47th among the states in using its tax potential.

Florida's future

A basic question: Why is it necessary for Florida's universities to have high quality programs?

The obvious answer is that these universities will have a great impact on the future of the State. It is generally acknowledged that those states which have the better institutions of higher learning enjoy a distinct advantage with those activities directly affected or influenced by higher education.

Economic Development—As are most other states, Florida is now placing great emphasis on economic development. Many contend that quality education programs provide a greater attraction to business and industry than any other factor.

In North Carolina, the Research Triangle Park, drawing on the resources of Duke, North Carolina and North Carolina State, attracted major private corporations and federal research agencies to that area and has accelerated the economic progress of the Carolinas. It is increasingly apparent that, if Florida hopes to be competitive with other parts of the nation in economic development efforts, it must also be competitive in the development and maintenance of quality programs of higher education.

Federal Funding—In addition to attracting business and industry to a state, universities may have a significant impact upon a state's economy by their ability, under highly competitive conditions, to secure federal research and development funding.

If the level of federal funding in Florida's nine public universities equaled that of the University of California's nine campuses, some $250 million additional dollars would be pumped into Florida's economy annually.

Talented Young People—Perhaps the most valuable long-term benefit from high quality universities is the ability to hold young people in the State and attract superior talent from other states and nations. The inability to do so could have a serious and lasting effect on Florida.

Many talented young people who go out of state never return. Similarly, if Florida were more competitive for outstanding out-of-state students, the State would benefit from the fact that many of them would remain here upon graduation.

Many *foreign* students fail to come to Florida because our universities do not compare favorably with many institutions elsewhere. That means that many of those students—especially those who assume leadership in government, industry, commerce, and the professions—will be more inclined to "do business" with states in which they received their training than in Florida. Latin American students particularly offer Florida the opportunity to build strong relationships with our neighbors to the South, paying dividends in terms of Florida's economic and cultural relations with these countries.

Research and Service—Florida's future will also be determined, in large measure, by the State's ability to address and resolve major problems which may limit its development or the realization of desired goals. The solution of these problems will be primarily dependent upon the development and application of knowledge—which is a basic mission of a university.

Florida universities must be concerned with finding solutions to many of the troublesome problems facing society today, including energy and environmental problems as well as those of State and local government, agriculture, business and industry—problems which may limit the development and effective operation of these important segments of the State's economy.

If we are to build for Florida's future, we must commit ourselves to an educational system that will provide the best opportunities for learning and research. Our young people and the citizens of our state deserve no less.

Recommendations

After the condition of the university system and its potentials for improvement were assessed, a series of recommendations were developed which are briefly summarized here. Some recommendations were "top priority." They have been noted in blue.

Faculty

Compensation—Faculty salaries should be upgraded and special emphasis given to merit increases and fringe benefits so that the University System can compete for faculty members with those universities whose salaries rank within the top 20 percent according to national surveys.

Assessment—The University System should seek to develop more effective methods of assessing the quality of faculty performance as teachers, as researchers, as providers of public service, and as advisors to students.

Tenure—The University System should study the tenure system now in effect, challenge its assumptions, and examine the entire process to satisfy itself that the tenure system continues to be consistent with the State's basic educational goals.

Standards—The universities should use the methods now available to identify and remove those faculty members who function in an unsatisfactory manner.

Renewal and Development—The universities should set aside funds for faculty renewal and development. These funds would be used to provide continuing supervision and assistance to faculty members as they undertake projects that will help them remain current in their disciplines and improve their instructional competence.

Adjunct Faculty—The universities should tap the vast reservoir of talent available in the State and use adjunct faculty members when the quality of instruction can be improved by using them in the place of full-time faculty members.

Differential Abilities—The universities should recognize the abilities of the individual faculty member in making assignments and giving rewards so that each person is treated fairly and equitably no matter what that person's principal function might be—whether teaching, research, public service, or student advising.

Superior Teaching—The University System should reward superior teaching in the same way that superior research and superior creative activity are rewarded.

Students

Admissions—The University System should ensure that students admitted to university programs can reasonably be expected to complete the program, and that a student seeking professional training can reasonably be expected to succeed in the student's chosen field. Admissions criteria should be free of any bias based on race, sex, ethnic background, age, or physical handicap. Academic achievement must be considered, but the university should also take into consideration motivation and other pertinent characteristics gained through such means as interviews or personal recommendations. Because there are no precise methods for predicting how well a student will perform, it is better to admit marginally qualified students, subject to certain retention standards, rather than to prohibit such candidates from entering a program.

Outstanding Students—The University System should increase its efforts to recruit high school graduates with high academic ability.

Learning Assessment—The University System should increase its investigations into the learning process and teaching effectiveness and disseminate the results throughout the System.

Access to Instruction—In order to provide accessibility for place-bound students to as many programs as possible, programs may be duplicated in different areas of the state when such duplication does not result in a loss of quality. Programs that require a large investment in special equipment and facilities or a large number of specialized faculty members should not be offered at all universities. Some highly specialized programs should only be offered at one location. Means should be found to provide access for place-bound students to those specialized programs.

Branch Campuses and Centers—The University System should continue to offer courses through branch campuses and centers and expand those programs according to student need as long as the high quality of programs can be maintained. Funding of these programs should recognize their above-average cost.

Alternative for Access—Alternative methods of instruction should be used to serve potential students who have been denied access to specific programs because of the location of course offerings, because the courses are offered at a time that conflicts with job or personal responsibilities, or because of the specialized nature of the course. In no instance, however, should the quality of these alternative offerings be less than the standard offered at the main campus.

Adult Learners—The legislature should fund and support a public policy that enables the state's adult learners to have the educational resources and services of the public universities accessible to them throughout their lifetimes.

Career Counseling—Universities should emphasize programs in career counseling for all students and prospective students. Such counseling should include information on career requirements, potential job satisfaction, and job market projections.

Degree Requirements—The Board of Regents should set equivalency requirements for each degree offered within the State University System in order to facilitate transfer within the System. Residency requirements should be kept at a minimum and should be reduced for students transferring within the System. While the Commission does not advocate a System degree, it does recommend that reciprocal agreements be made in order to insure that all credits earned in one university can be transferred to another.

Programs and process

Programs of National Distinction—The University System should identify and properly fund programs in selected academic disciplines in order to develop programs of national distinction.

Research—The University System should intensify basic and applied research activity and should make its research capability available to business, industry, consumers, other educational institutions, and the public at large.

Academic Program Review—The University System should continue the academic program review process so as to evaluate quality, to monitor programmatic goals and objectives, and to provide a basis for effective statewide planning.

Curricular Reform—The University System should pursue the review and revision of current curricula with renewed vigor, particularly at the undergraduate level, and should develop means to encourage curriculum research in order to improve the effectiveness of educational programs while reducing costs.

Supporting resources

Libraries—The legislature should continue its $50,000,000 library improvement program and should fund other learning support services.

The Central Office—The central office should directly manage only those activities which cannot be assigned to one or more universities or conducted more efficiently or effectively in a decentralized mode.

Scientific and Technical Equipment—Special efforts should be made to equip properly both teaching and research laboratories, and procedures should be established to ensure that they remain adequately equipped.

Supporting Personnel—Additional support staff should be employed so as to enable faculty and professional staff members to concentrate on their assigned tasks.

Graduate Assistantships—The number and value of assistantships for graduate students should be increased.

Contact, cooperation, and coordination

Coordination of Educational Levels—In order to increase accessibility to high-quality educational services and to increase the efficiency with which those services are provided, the University System should take the lead in developing effective relationships with all sectors of public and private education in the state.

Independent Higher Education—Where feasible and appropriate, the University System should contract with independent colleges and universities for needed academic programs and should seek to cooperate with the independent sector in other ways as well.

Public Schools and Universities—The University System should continue to cooperate with the public schools in assessing and developing more effective teaching methods, by testing teacher competencies, and by increasing the scope and depth of in-service training programs through teacher education centers.

Economic Development—The University System should continue to contribute to the economic development of the state by making the instructional and research capabilities of the System accessible to businesses and industries already operating within the state and to others considering expansion or relocating in Florida.

Consolidation—The legislature should authorize and fund a study by a body independent of the Commissioner of Education and the Board of Regents to investigate the practicability of consolidating public post-secondary institutions in the state.

Alumni—The University System should develop a method for maintaining contact with alumni in order to serve them better and to gain information useful in assessing the System's performance in meeting its goals.

Community Interaction—The University System should make available to the community at-large the talents of the professionals who work in the System. The universities should make its libraries and other physical facilities more readily available for use by governmental agencies, businesses, industry, and the community-at-large.

Communication—The universities should provide information to their local service areas on the opportunities available to potential students and on the universities' willingness to respond to community needs of various kinds.

Educational Outreach—The universities should support educational outreach (education provided away from the primary campuses or directed toward non-traditional students) by employing the necessary faculty members. They should be rewarded equally with those faculty members who are engaged in other functions.

Funding the State University System

Tax Support—The legislature should view tax support of higher education as a very high priority investment in the future of the state and act over the next several years to provide above average tax support for the State University System so that Florida may be included among the top 20 states in the nation by 1990.

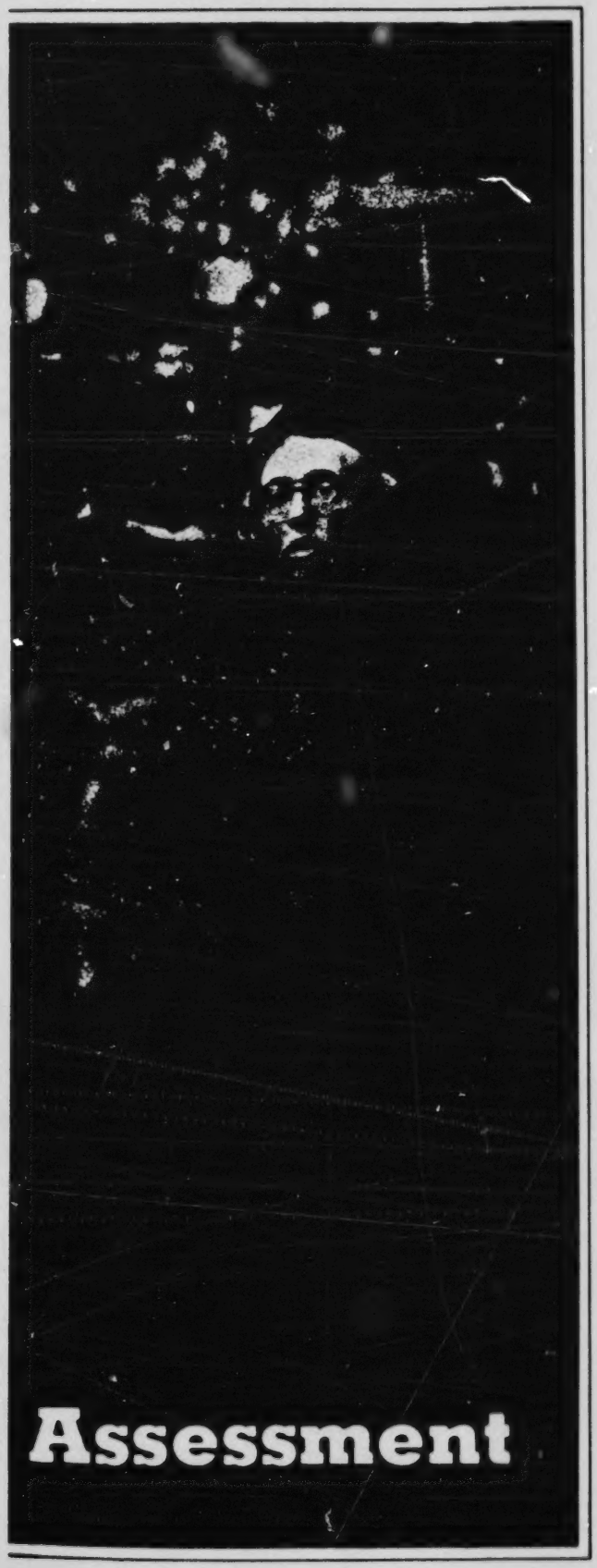
Private Funding—The University System should encourage individuals, corporations, foundations, and government agencies to increase their support of the universities.

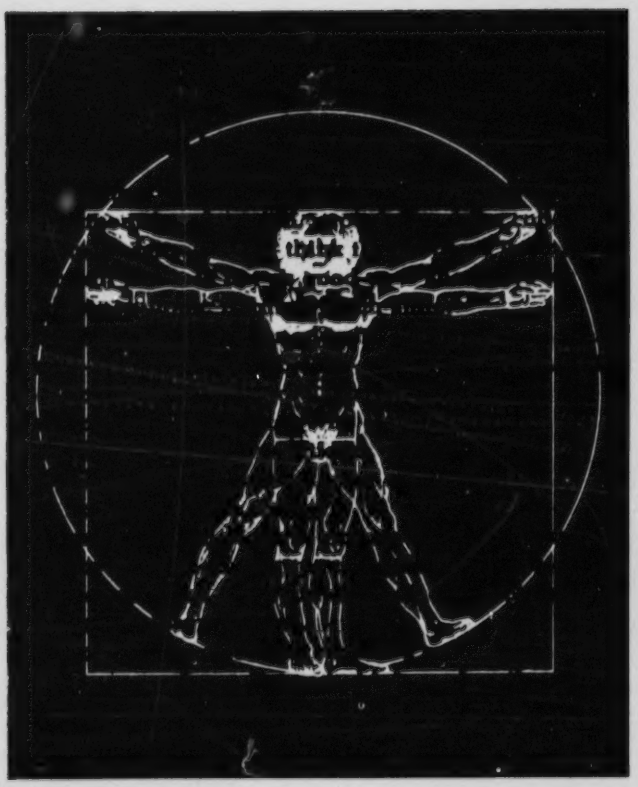
Budget Process—The University System should seek the support of the legislature and the Department of Administration to develop and improved budgeting process, which would, among other things, provide a high degree of local budget authority, less reliance on formulas, greater flexibility, and more incentives to reduce costs.

Role and Scope—The individual role and scope statements, once they are completed and approved by the Regents, should be used to direct operations, allocate funds, and evaluate performance.

Student Financial Aid—A broadly based financial aid program that includes emphasis on loans and part-time employment should be continued. The university should make financial aid available to part-time and non-traditional students on an equitable basis; provide new, more relevant financial aid systems for students of all ages; and provide for a variety of tuition payment methods.

Flexible Fee Policy—The state should adopt a flexible fee schedule that will enable the University System to offer special courses—both credit and non-credit—with the costs being shared appropriately between the student (or the student's sponsor) and the state.


Assessment



Evolution of the State University System

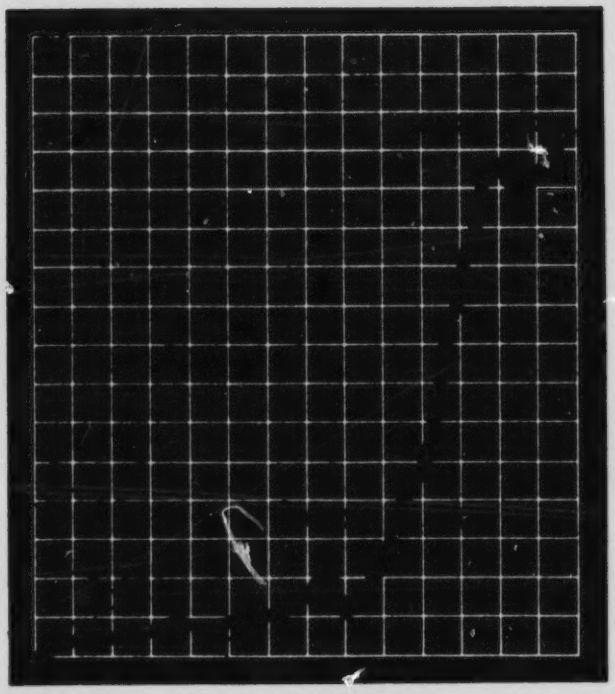
The recommendations of the Commission on the Future of Florida's Public Universities have been drafted after a careful assessment of current problems, strengths, and weaknesses. A historical perspective on the State University System has been helpful in making that assessment.

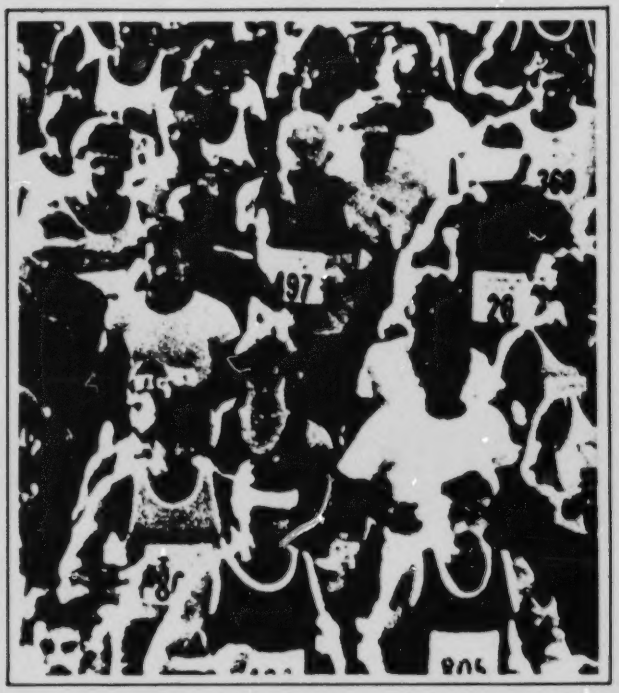
The Buckman Act of 1905 established the State University System by consolidating the nine existing institutions of higher learning into three and by placing the supervision of these institutions in the hands of a five-member Board of Control, the forerunner of the present Board of Regents. These three institutions became, in time, the University of Florida, Florida State University, and Florida Agricultural and Mechanical University.

In 1905, the combined enrollment of the three institutions was 620 students. During their first thirty-five years the universities grew slowly, reaching a pre-World War II enrollment level of 6,395 in the fall of 1940 *(see Figure 1)*.

In the first post-war year, 1946, enrollment shot up to 11,485, and with the further influx of veterans, some 21,000 students had enrolled by the fall of 1949. Then for the next eight years, enrollments remained essentially static, in the 19,000 to 21,000 range. In the late 1950s, however, especially with the opening of the University of South Florida in 1960, enrollment began to increase very rapidly.

The graph of the number of students enrolled in





ENROLLMENT INCREASES

Florida's universities each year helps to explain the university system's present condition *(see Figure 1)*. Its most striking feature is the very steep rate of growth for the period 1960–1975.

As the cadre of persons born at the end of World War II reached college age, the citizens of Florida expanded the facilities of the state universities to accommodate the greatly enlarged numbers of students who wanted to continue their education beyond high school. During the 1960s university enrollments increased on the average by some 6,000 students each year, an increase that was made possible by the establishment of six new universities—University of South Florida (1960), Florida Atlantic University (1964), University of West Florida (1967), Florida Technological University (1968), University of North Florida (1972), and Florida International University (1972). The creation of 18 new community colleges during this period contributed further to the expansion of post-secondary educational opportunities.

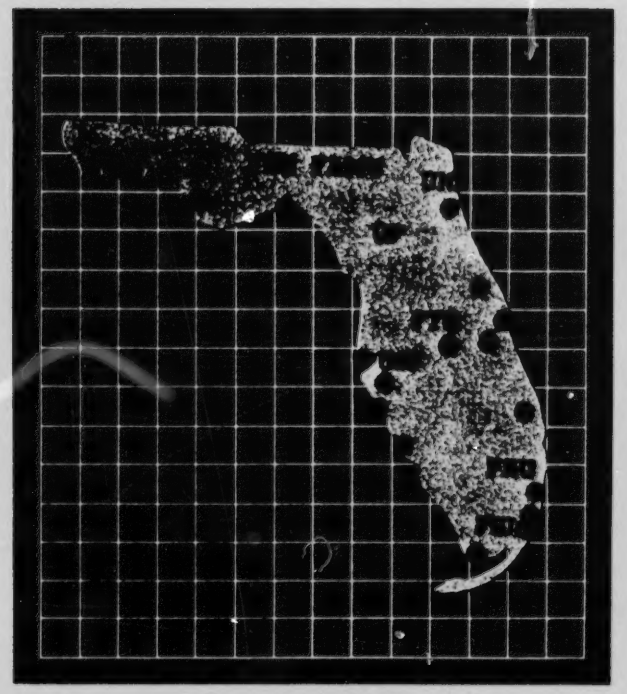
Branch campuses and of-campus centers in other urban areas brought university programs within reach of many students who were prevented from leaving home to go to school. And at the older universities – University of Florida, Florida State, and Florida A&M—major new programs were added, including colleges of medicine, dentistry, architecture, veterinary medicine, and law.

By the early 1970s, shortly after Florida International University and University of North Florida came into existence, enrollment was growing at its maximum rate of 10,000 students a year. That the state had made access to university study so convenient as to permit such a rate of growth is to the credit of the state's leaders and planners who guided the system through this period of phenomenal growth.

Few other states supported such rapid and widespread expansion of their facilities for higher education during the past two decades. For most Floridians, community college and university programs are within commuting distance of their homes. With proper maintenance, the physical facilities added during the 1960s and '70s will be available in the 1980s and '90s to serve the children of the college students of the past 20 years.

To permit every citizen to develop his or her potential to the maximum continues to be one of the primary goals of our system of higher education. University enrollments will likely continue to grow at a modest 2–3% annual rate for several years, leveling off and possibly turning downward slightly by the mid to late eighties. Since the facilities now available make university programs locally accessible throughout the state, we are now able to focus our planning on the second—and not yet accomplished—part of our task, the building of quality into this widely dispersed and well-articulated university system.

Geographical Distribution of Programs



UNIVERSITIES, BRANCH CAMPUSES AND CENTERS

The state's university system of public higher education in Florida has been planned to bring university resources within commuting range of nearly all the people of the state. In locating each university, its branch campuses, and its off-campus centers, the uppermost goal of the Legislature and university planners has been to make the university system accessible to all of the state's residents.

The branch campuses and centers extend the instructional and public service programs of the universities closer to major population centers in order to serve a greater number of citizens.

During the 1976–77 year, nearly 2,200 courses and over 41,000 separate enrollments were registered in off-campus centers or other off-campus locations by the nine universities. These courses, offered for credit, were given in 46 of the 67 counties of the state.

Academic Programs

The state's university system offers 604 baccalaureate, 420 master's, 52 specialist, 130 doctoral, and 29 professional degree programs across nearly every major discipline available in the United States. More than half of these programs have been developed in the past 18 years and after the establishment of the six newest universities in the system.

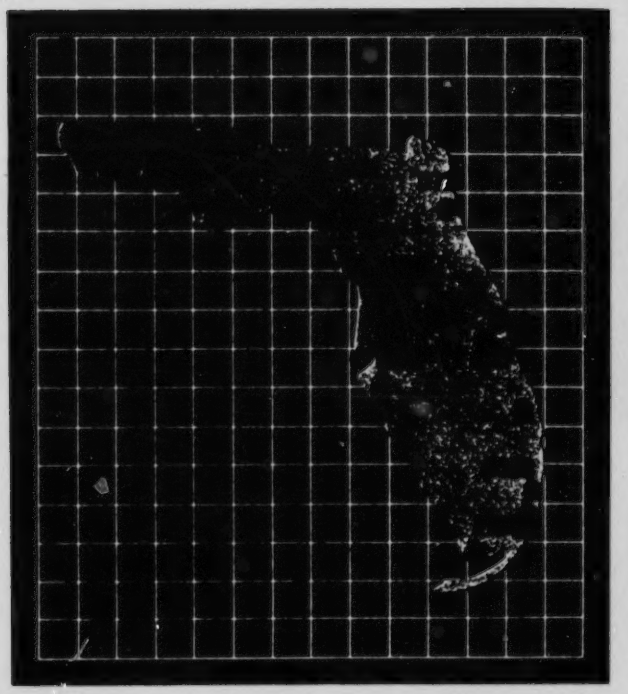
Each university offers basic undergraduate programs in arts and sciences, teacher education, and business; most offer undergraduate programs in the health services, public affairs, and communications. Professional and preprofessional programs are offered in response to the needs of the region of each institution, providing career possibilities for students and in-service retraining opportunities for locally employed adults.

Florida participates in "contract programs" in which Florida residents are admitted to a high-cost program in a university outside the state at the other state's in-state tuition rate. Thus Florida meets the needs of some of its students while avoiding the costs of duplicating programs in a number of expensive professional fields.

Under similar contract programs at the University of Miami, 584 Florida residents are having a part of their medical school costs paid for by the state through a legislative appropriation; and, in 1978–79, if the Regents' budget request is approved, 20 master's degree students in nursing will receive tuition support from state funds for study there.

Since 1974, through the Southern Regional Education Board's "academic common market"

Geographical Distribution of Programs



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Since 1974, through the Southern Regional Education Board's "academic common market"

program, Florida residents may qualify for in-state tuition in 22 programs in ten other states. Fourteen programs within Florida are similarly available to residents of other states.

Highly specialized programs in the state's university system are found in only a few locations: two medical schools, two law schools, two schools of pharmacy, and two schools of architecture; four engineering schools; and one school of dentistry and one of veterinary medicine. Cooperative degree programs between universities provide for the sharing of faculty, facilities, or library resources, making these specialized degree programs available more widely than just on their primary campuses.

The policy guidelines recently adopted by the Board of Regents speak to the need to develop academic programs in response to demonstrated needs:

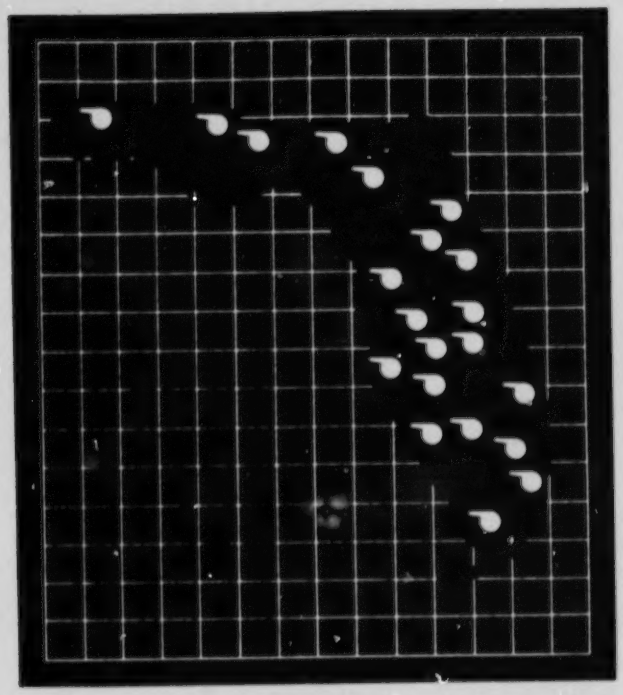
"Recognizing the need to make as many programs as possible accessible to place-bound students, the State University System should duplicate bachelor's and master's degree programs in different areas of the state when the advantages of duplication significantly outweigh the increased costs. Bachelor's and master's degree programs which, in order to maintain high quality, require large investments in specialized equipment and facilities or a large number of specialized faculty, should not be offered in every university. Certainly highly specialized programs should be offered at only one location." (Policy Guideline 17: Systemwide Role and Scope Policy Guidelines . . ., 1978)

The possible needs for new doctoral programs were also addressed in these guidelines:

"Recognizing that student demand for new doctoral programs will not increase significantly in the immediate future, the State University System must be concerned with the continuation of current doctoral programs and the initiation of new doctoral programs. Some shift of doctoral programs from one institution to another may be necessary based on role and scope determinations, and some low-demand programs may need to be consolidated or eliminated. However, it is not anticipated that major shifts will occur from one institution to another, and the State University System shall continue to offer most of its present comprehensive range of advanced graduate degree programs with related research activities where they now exist. New or additional advanced graduate degree programs with related research activities may be authorized when certain factors are appropriately considered. These factors should include (1) demand from students who are place-bound, (2) other needs of the local area, (3) special characteristics of the university or the resources of the area that facilitate service with reference to state, national, or international needs, and (4) evidence that an appropriate cooperative degree program would not meet the need." (Policy Guideline 18: Systemwide Role and Scope Policy Guidelines . . ., 1978)

The Regents systematically and continuously review academic programs throughout the system to determine areas of strength, to decide where new programs should be started, and, in some cases, to shift resources from programs that are no longer needed in order to finance new needs or those of higher priority.

Research and Service Programs



INSTITUTE OF FOOD & AGRICULTURAL SCIENCES

The quantitative achievements of the state's university system have been impressive, not only in academic programs but also in applied research and in public service.

The commitment to public service of American higher education grew out of the Morrill Act of 1862. Today, the commitment made in this federal statute is strongly expressed in Florida through the University of Florida's Institute of Food and Agricultural Sciences (IFAS), whose research programs assist Florida's agricultural industry to become more efficient, to improve consumer health and nutrition, and to improve the well-being of producers and consumers of agricultural resources. The IFAS educational programs reach into all 67 Florida counties, serve diverse audiences, areas, and age groups, and are continuously modified to meet changing needs *(see Figure 3)*.

Other programs in the state's university system assist both individuals and the state through research and service. The Florida Solar Energy Center located at Cape Canaveral, which predates federal interest in solar research, operates as a systemwide center, drawing upon the resources of all nine public universities. Its major objectives include research on the use of solar energy, instructional programs to educate the public in solar technology, and a testing program for new products. Its larger ambitions are to stimulate Florida's fledgling solar energy industry while protecting Florida's consumers. Solar energy will be only one new energy source that Florida must be ready to test and bring into service to replace fossil fuel as the supply dwindles over the next generation.

The Engineering and Industrial Experiment Station (EIES), established as a part of the College of Engineering of the University of Florida in 1941, promotes research with special attention to the needs of industries located in Florida. The engineering schools at Florida Atlantic, the University of South Florida, and Florida Technological University have similarly made statewide industrial development matters of high research priority.

Many important research programs at the several universities focus on local or regional needs. To meet identifiable statewide needs, systemwide institutes or centers have been created, among them the Florida Institute of Oceanography (St. Petersburg), the State University System Extension Library (St. Petersburg), and University Presses of Florida (Gainesville).

Two nontraditional degree programs are included in the educational services of the university system: the External Degree Program established by Florida International University, and the Bachelor of Independent Study Program of the University of South Florida. These programs provide nonformal learning opportunities tailored to the particular needs of the student. Additionally, many cooperative programs involving combinations of institutions and conducted on no particular campus can be found in two-thirds of the counties of Florida.

As employers demand new skills, workers and professionals demand continuing education to keep abreast of our rapidly changing economy. Many opportunities for continuing study, long significant for individual self-fulfillment, are now professionally required by medicine, dentistry, teaching, and nursing. Florida's public universities must be responsive to the needs of these employed professionals.

Access to Knowledge, a report of the Commission on Educational Outreach and Service published in 1976, clearly points out that Florida has just begun to meet the needs of her citizens for educational outreach programs. That report recommends a public policy to be embodied in legislative action supporting lifelong learning.

Quality of Programs

No measures of university program quality are completely definitive. Nevertheless, several factors are commonly used to compare the quality of university programs. And it is generally accepted that these factors contribute to, if they do not altogether determine, the quality of a university's programs. Some of these factors are a university's library resources, the level of training and reputation of its faculty, its ratio of students to teaching faculty members (since those ratios reflect the opportunity for the faculty to give attention to students individually), the size of a university's endowment and the level of voluntary support, the level of research activity in a university and its success in competing for "outside" funding for research, and the quality of a university's entering students.

This report frequently compares the public universities in Florida with four prominent public institutions elsewhere: the University of California at Berkeley and the University of Michigan—generally considered the two best public universities in the nation—and the University of Texas at Austin and the University of North Carolina at Chapel Hill—two of the better public universities in the South. In several instances the University System of Florida is compared with the University of California System. Each system has nine campuses with enrollment levels approximately the same. Quality indicators for some of the better institutions elsewhere might serve as standards against which Florida universities might be evaluated.

Library resources

Most scholars would agree that the library is the heart of a university. While collections of books and periodicals will not, by themselves, assure the quality of a university's programs, the lack of adequate library resources will prevent a program from achieving first-rate quality. In a comparison made by the Association of Research Libraries in 1976, the University of Florida ranked 34th and FSU 79th among the nation's universities *(see Table 1)*. The other seven universities in the state's university system ranked far below 100.

The combined holdings of the libraries of Florida's nine universities did not equal the holdings of the University of Illinois alone *(see Table 1)*. Both the

University of Michigan and the University of California—Berkeley had almost as many volumes as the nine Florida universities combined. Duke University, with some 9,000 students, had almost as many library volumes as the University of Florida and Florida State University combined, with a combined enrollment of some 50,000 students.

Rapid enrollment growth coupled with inflation contributed to a decline in library support in Florida during the early 1970s: In 1971 the SUS purchased some 4.3 volumes per student, but by 1975 it was able to buy only 1.6 volumes per student.

Early in 1977 the Regents proposed a major library improvement program, to be funded at the rate of $10 million a year for five years. The Legislature, in the 1977 session, approved the first $10-million appropriation for this purpose, a laudatory and very significant action.

That special appropriation alone, however, has not solved the university system's library problem. It will permit the nine Florida university libraries together to reach the approximate level of holdings, as of 1976, of a single public university in the midwest, the University of Illinois. Implementation of the full five-year plan of library enhancement proposed by the Regents in 1977 would permit Florida's university system to achieve the level of book volumes called for in the "Washington formula," a minimum standard for university libraries commonly employed throughout the nation. Even with such supplemental funding, it is unlikely that Florida, at the end of the five-year period, would place even one university among the top 20 in the nation in terms of library volumes.

Reputation of the faculty

Quality programs require well-trained, able, and highly motivated faculty. In most universities today, a very high percentage of the faculty hold the terminal degree in their discipline, the Ph.D. in most fields.

Individual faculty members, no less than universities, may aspire to national repute. Faculty members compete nationally for positions, scholarly achievement, grant monies, and outstanding students. The rankings of institutional programs are based heavily on the reputation for quality of the faculty. A scholar who accepts the stresses of national competition and gains broad recognition among his or her peers strengthens the institution and attracts aspiring faculty members and students, outside funds, and national respect.

Nobel laureates. Perhaps the greatest distinction a faculty member may achieve is to be named a Nobel laureate. Faculty members so honored add great distinction to a university and provide one highly visible measure of its quality.

Florida's universities have yet to produce a Nobel laureate. One Nobel recipient is affiliated with FSU, having joined the faculty after his retirement elsewhere. By contrast the University of California has 15 faculty members with such distinction. And in California's public and private universities together there are some 27 Nobel laureates.

National Academy of Science membership. "By most accounts election to the Academy is second only to the Nobel in the esteem accorded to it by most of the American scientific community" (Boffey, P.M., writing in *Science* 196 (1978): 738). The National Academy of Science memberships reflect the distribution of scientific talent nationally.

In April, 1977, the University of Florida and Florida State University had three and five members each respectively in the Academy. By contrast the University of California at Berkeley had 61 members; other campuses in the University of California system had 93 members. Thus there were some 164 Academy members in the University of California system—but only eight in the Florida system (see *Table 2*). Of those eight, only four faculty members were elected to the Academy while they were employed in Florida's university system.

TABLE 2
Members of the National Academy of Sciences. Selected Universities and States—April 1977

	Number of members
University of California—Berkeley	61
University of California System	154
University of Florida	3*
Florida State University	5
State of California	300
State of Michigan	15
State of North Carolina	24
State of Texas	23
State of Florida	10

*One member is employed only one quarter each year.

Peer evaluation of faculty. As in other professional fields, evaluations of faculty members by their peers are widely accepted as measures of the quality of a university's faculty.

The most recent and comprehensive peer evaluation of university faculty quality was carried out by K.D. Roose and Charles J. Andersen and published by the American Council on Education in 1970. This study surveyed the quality of faculties and the effectiveness of graduate programs in 36 different disciplines. To be included, an institution had to have awarded at least 100 doctorates in two or more disciplines in the prior ten years. Some 130 universities met this standard and were surveyed.

The evaluators in this study were selected with the cooperation of the graduate deans in the 130 universities, and 6,000 department chairmen and faculty members participated. Table 3 summarizes the results.

The University of Florida and Florida State University were the only SUS institutions included in this study. In almost a third of the disciplines studied (11 of 36), neither UF nor FSU had faculties evaluated as "adequate." (In some disciplines, no advanced graduate programs were offered at either university.)

Table 4 summarizes the rankings of faculty at UF and FSU. In 14 disciplines, UF or FSU or both had faculty ranked "adequate to adequate plus." In two disciplines both UF and FSU had faculty so evaluated. In nine disciplines, UF or FSU or both had faculties ranked "good minus." In four disciplines, both UF and FSU had faculties so ranked. In three disciplines, faculties were evaluated as "good to distinguished"—with both UF and FSU having faculties in one discipline (chemistry) so evaluated. The faculties receiving the "good to distinguished" evaluation were ranked 20th, 24th, 24th and 35th nationally in their respective disciplines.

By contrast the faculties at the University of California—Berkeley were ranked "good to distinguished" in all 35 disciplines offered. (One program evaluated was not offered at Berkeley. This one program, however, had faculty ranked "good to distinguished" in another branch of the University of California system.)

The University of Michigan had faculties evaluated "good to distinguished" in 34 of the 36 disciplines and her sister institution, Michigan State University, had faculties so ranked in the other two disciplines.

Both the Universities of Texas and North Carolina had significantly greater numbers of disciplines with high ranked faculties than the Florida universities.

In the 25 disciplines in which faculty were ranked "adequate" or better, the University of Florida and FSU programs were, on the average, ranked 41st among universities nationally.

TABLE 3
Quality of Graduate Faculty in Florida Universities

Evaluation and Rankings of Florida Faculty

Discipline	Good to Distinguished	Good Minus	Adequate to Adequate Plus
		(National Rankings)	
Art History		unranked among 19 universities	
Classics		unranked among 28 universities	
French		unranked among 47 universities	
German		unranked among 38 universities	
Linguistics		unranked among 24 universities	
Philosophy		unranked among 49 universities	
Russian		unranked among 13 universities	
Spanish		unranked among 45 universities	
Anthropology		unranked among 32 universities	
Astronomy		unranked among 23 universities	
Economics		unranked among 44 universities	
English			UF (53)*
Music			FSU (30)
Geography			UF (24)
History			UF (48)
Political Sci.			UF (36)
Psychology		UF & FSU (38)	
Sociology			FSU (37)
Biochemistry		FSU (40)	UF (58)
Botany			FSU & UF (49)
Develop. Biol.		FSU (36)	UF (55)
Entomology		UF (21)	
Microbiology			UF (58)
Molecular Biol.		FSU (36)	UF (54)
Pharmacology	UF (20)*		
Physiology		UF & FSU (40)	
Popul. Biol.		UF (41)	
Zoology		UF & FSU (39)	
Chemistry	FSU (24) UF (35)		
Geology			FSU (43)
Mathematics			FSU & UF (54)
Physics		UF & FSU (58)	
Chem. Eng.		UF (28)	
Civil Eng.			UF (47)
Elec. Eng.	UF (24)		
Mech. Eng.			UF (47)

*Numbers in parentheses indicate national ranking of faculties among universities. For faculties evaluated below "Good to Distinguished," numbers represent average or mid-point for a group of institutions evaluated at indicated level. Using the mid-point for such groupings as the rank for UF and FSU programs, the average rank for faculty in the 25 disciplines evaluated "adequate" or better was 41st nationally.

Source: Roose, K. P. and Andersen, C. J., A Rating of Graduate Programs (American Council on Education, 1970).

Perhaps even more noteworthy are the specific national rankings of the faculties in the various disciplines at the different universities. Table 5 indicates that the University of California—Berkeley had faculties ranked first in the nation in eight of the 35 disciplines offered at that institution. Faculties in 32 of the 35 disciplines were ranked among the top five programs nationally; 34 of the 35 in the top ten; and all 35 were ranked in the top twenty. The total University of California system had faculties in 35 disciplines ranked among the top five programs nationally; 52 among the top ten; and 83 among the top twenty.

By contrast, the State University System of Florida had no faculties ranked among the top five or top ten programs and only one among the top twenty—with this one achieving a national rank of 20th.

Florida's state university system does not compare favorably even with many other southern universities. The University of Texas, for example, had faculties in four disciplines ranked among the top five nationally; seven among the top ten; and 14 among the top twenty. The University of North Carolina at Chapel Hill had faculty in one discipline ranked among the top five; three among the top ten, and eight among the top twenty.

In a recent study funded by the National Science Foundation, Columbia University sociologists J. R. Cole and J. A. Lipton asked some 2,000 faculty members at U.S. medical schools to rate faculty quality and effectiveness of training at 94 medical colleges throughout the nation *(see Table 6)*. Harvard, Stanford, and the University of California—San Francisco were ranked in the top four. Two other University of California medical college faculties ranked among the top 20 nationally.

The medical faculty of the University of Florida was ranked 36 nationally, just below the University of Alabama. Ranked above the University of Florida were the medical college faculties of the University of Virginia, Baylor, Emory, the University of North Carolina, Vanderbilt, the University of Texas, and Duke. (The evaluations were conducted before the University of South Florida's program was fully underway and therefore it was not compared in the study.)

TABLE 4
Summary of Evaluation of Quality of Graduate Faculties

	Good to distinguished	Good minus	Adequate to adequate plus	Total disciplines ranked adequate or better*
University of California—Berkeley	35	0	0	35
University of Michigan	34	2	0	36
University of North Carolina —Chapel Hill	12	11	1	24
University of Texas—Austin	23	7	3	33
University of Florida	3	7	11	21
Florida State University	1	6	5	12

*In 10 disciplines both University of Florida and Florida State University had faculty ranked "adequate" or better.

Source: Roose, K. P. and Andersen, C. J., A Rating of Graduate Programs (American Council on Education, 1970)

TABLE 5
National Rankings of Graduate Faculties

	National rank			
Institution	1st	Top 5	Top 10	Top 20
	(Number of university faculties ranked)			
University of California—Berkeley	8	32	34	35
Other University of California branches	0	3	18	48
Total University of California system	8	35	51	83
University of Michigan	1	12	23	31
University of North Carolina	0	1	3	9
University of Texas	0	4	8	17
University of Florida	0	0	0	1
Other Florida SUS universities	0	0	0	0
Total Florida State University System	0	0	0	1

Source: Roose, K. P., and Andersen, C. J., A Rating of Graduate Programs (American Council on Education, 1970)

TABLE 6
Ranking of Medical Colleges According to Quality of Faculty, 1977

Institution	National Ranking
University of California—San Francisco	4
Duke University	6
University of Michigan	7
University of California—Los Angeles	12
University of California—San Diego	19
University of Texas, Southwestern Medical	22
University of North Carolina	24
University of Alabama	35
University of Florida	36

Source: Cole, J. R., and Lipton, J. A. Social Issues (March 1977), summarized in Chronicle of Higher Education, March 20, 1978.

TABLE 7
Ratios of students to teaching faculty in Florida's State University System, 1953–54 and 1974–75

	1953–1954 students/teacher	1974–1975 students/teacher	Increase
Undergraduate			
Lower level	18.1	26.3	45%
Upper level	11.3	19.3	71%
Graduate	7.1	15.2	114%

Source: State University System of Florida data.

TABLE 8
University Endowment Funds (June 30, 1976)

Rank nationally by size of endowment		Amount of endowment (000)
1	Harvard University	$1,427,930
6	University of California (9 campuses)	369,52[illegible]
27	University of Michigan	97,3[illegible]
NA*	University of North Carolina	22,4[illegible]
NA	University of Florida	7,6[illegible]
NA	Other Florida SUS institutions	[illegible]
	Total Florida SUS	[illegible]

*Not Available
Source: Ranked universities from a survey by National Association of College and University Business Officers, summarized in the Chronicle of Higher Education, July 18, 1977. Information for other universities taken from Council for Financial Aid to Education, Voluntary Support for Education, 1975–76. (Information on University of Texas not available from either source.)

Ratios of students to teaching faculty

The ratio of students to teaching faculty is frequently used as an indicator of a university's quality. A low ratio of students to faculty increases the students' access to individualized instruction. During the last 25 years the ratio of students to teaching faculty has undergone a marked increase in Florida's university system *(see Table 7)*. Between 1953–54 and 1974–75 there was a 45 percent increase in teaching faculty productivity at the lower level of undergraduate instruction, a 71 percent increase at the upper level, and a 114 percent increase at the graduate level. Between 1972–73 and 1977–78, when there was an *increase* in enrollment of 12.2 percent, the number of faculty positions was reduced by 6 percent and total academic positions dropped by 1.8 percent.

In the nine-year period between 1968–69 and 1977–78, faculty workload or productivity in the state's university system increased on the average by 30 percent. These changes have resulted primarily from legislatively mandated increases in faculty workloads during this period. Such increases in productivity are equivalent to adding a university the size of the University of South Florida, without increasing the size of the SUS faculty. The maintenance of quality programs is very difficult under such circumstances.

Size of university endowments and amount of voluntary support

Another measure of the quality of a univesity's efforts is its ability to attract private funds either to build its endowment or to support annual operations. Private donors generally prefer to contribute to universities that have reputations for high-quality programs.

Endowments. In an interview in *Time* magazine recently, Father Hesburg, President of Notre Dame University, made the following comment: "Show me the top ten (university) endowments, and I'll show you the top ten schools in the country."

Of today's ten largest university endowments, nine are in private institutions. They include Harvard, Yale, Columbia, Stanford, Princeton, MIT, University of Chicago, and Cornell. The only public university in the top ten is the University of California—unquestionably the best public university in the nation.

The endowment of the University of California, almost $370 million, ranks sixth nationally *(see Table 8)*. Only four other public universities have endowments greater than $80 million and these include the universities of Michigan, Virginia, and Minnesota, three of the better public universities in the nation. The universities in the Florida system, with the exception of the University of Florida, had insignificant levels of endowment funds.

Annual voluntary support. Table 9 summarizes the level of voluntary contributions to selected universities in 1975–76. The level of contributions at the University of California was second only to Harvard nationally. Other public universities of quality, such as the universities of Michigan, Minnesota, and Illinois, had levels of annual voluntary giving in excess of $20 million.

In recent years the University of Florida has greatly increased its voluntary or private support, reaching a level of almost $8 million in 1975–76. FSU achieved a level of some $3 million and USF more than $2 million. The other six universities accounted for less than $2 million. For Florida's nine state universities combined, however, the total did not equal that raised by the University of Michigan.

The University of California's large endowment and impressive annual voluntary support have undoubtedly been major factors in enabling that institution to achieve preeminent quality. Even though California's state support for higher education is one of the nation's highest, supplemental private funding has doubtless been essential for the achievement of first-rank status. If the basic level of university support can be supplied from public funds, the enrichment made possible through endowments and annual private giving can provide the margin for university excellence.

Ability to attract external research and development funds

A university's quality is also measurable by its ability to compete successfully for external funding for research and development. Such funds, from the federal government, foundations, or business and industry, are often awarded with priority given to institutions that have faculties and programs of recognized high quality.

Better university faculty members are often attracted to universities that have proven track records for attracting outside research support. Those prestigious faculty, in turn, enhance the university's ability to secure outside research funding.

The extent to which California has been successful in attracting and keeping high-quality faculty members is implied earlier in this report. By any measure, the University of California system receives more federal research and development funding than any other higher education system in the nation *(see Table 10)*. In 1975, this amounted to some $300 million, over six times the less than $50 million for Florida's state university system. Four University of California campuses ranked among the top 20 universities nationally in federal funding. The University of Florida, ranked 38th nationally, was the only public university in Florida to rank in the top

100. Three campuses in the California system each received more federal funding than all nine of the Florida universities combined. And total federal funding for all nine SUS institutions does not equal the level for any one of the more prominent state universities in the midwest such as Illinois, Michigan, Minnesota, or Wisconsin. The level received by the University of Florida is approximately equal to that awarded the Universities of Texas and North Carolina.

While the University of California receives more federal funds than any other state system, MIT, year after year, receives one of the highest levels of federal research and development funds of any single campus in the nation. For the last 15 to 20 years at least, there has been a major concentration of research and development funding at MIT and the California universities.

Ability to attract good students

Another measure of a university's reputation for high-quality programs is its ability to attract good students. A recent national survey of freshmen attending colleges and universities indicates that 48 percent of them picked their college on the basis of its good academic reputation. Institutions with better reputations tend to attract better students.

During the period from 1970 to 1974, a study by Florida's Board of Regents staff found about 40 percent of Florida students scoring in the 95th percentile or higher on the Twelfth Grade Tests were enrolling in colleges and universities outside the state.

Of those students scoring in the 95th percentile and higher on the Twelfth Grade Tests who continued their education in Florida, about a third attended the University of Florida, a third attended other SUS institutions, and a third private colleges and universities.

While in the past few years both the University of Florida and Florida State have been increasingly successful in attracting National Merit Scholars, fewer than half of the National Merit Scholars from Florida high schools go on to a public university in Florida, a serious loss of talent to Florida since many of these most able students never return to reside in the state. And the testimony of these able students indicates that they leave Florida for university training not merely to attend school away from home but because they are conscious of the significance of quality in their prospective university education.

Even though many of Florida's able high school graduates remain in the state for university training, it is obvious that a significant number of the very best students, particularly those of financial means, elect to go to distinguished universities outside Florida, universities whose programs have reputations for highest quality.

Evaluations of program quality

There have recently been several national studies of program quality in various academic disciplines and professional fields. The findings of some of these studies, particularly as they relate to Florida, are reported in Tables 12 through 16.

Graduate programs. The Roose-Andersen study discussed previously in connection with graduate faculties in 36 disciplines included as well an evaluation by department chairmen and faculty members of the overall quality of doctoral programs in these disciplines.

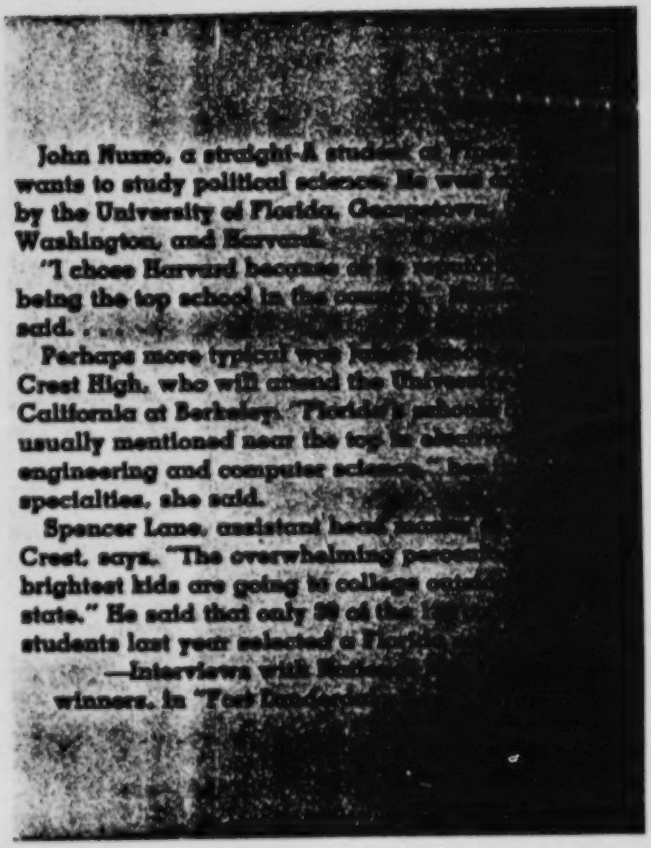
In Florida, only the University of Florida and Florida State University were included in the study. A department scored one point for "acceptable," two points for being "attractive," and three points for being "extremely attractive." Twenty-five disciplines at the two universities were evaluated as being "acceptable," their average scores ranging between 0.8 and 1.4. In all of Florida only one doctoral program received a score higher than "acceptable," Florida State University's chemistry program, which scored over 1.5 to reach the rank of "attractive minus" *(see Table 11)*.

In 11 of the 36 disciplines studied, neither university had a program that was rated "acceptable."

TABLE 9
Annual Voluntary Support for Universities, 1975–76

Institution	Annual Contribution (000)
Harvard University	$59,026
University of California (9 campuses)	57,481
University of Michigan	25,870
University of Florida	7,867
University of North Carolina	6,963
Florida State University	3,042
University of South Florida	2,232
Other Florida universities	1,862
Total Florida SUS	15,003
University of Texas	N.A.

Source: Council of Financial Aid to Education, Voluntary Support of Education, 1975–1976.



John Nuzzo, a straight-A student [illegible] wants to study political science. He was [illegible] by the University of Florida, Georgetown, Washington, and Harvard.

"I chose Harvard because of its [illegible] being the top school in the country," he said. [illegible]

Perhaps more typical was [illegible] Crest High, who will attend the University of California at Berkeley. "Florida's [illegible] usually mentioned near the top in [illegible] engineering and computer science," [illegible] specialties, she said.

Spencer Lane, assistant head [illegible] Crest, says, "The overwhelming percentage [illegible] brightest kids are going to college out of state." He said that only 20 of the [illegible] students last year selected a Florida [illegible]

—Interviews with [illegible] winners. In "Test [illegible]

TABLE 10
Federal funding for universities, fiscal year 1975

	Rank nationally	Federal funding (000's)
Massachusetts Institute of Technology	2	$ 80,342
Stanford University	6	70,171
University of California—Los Angeles	4	74,818
University of California—Berkeley	11	60,368
Total University of California		$300,059
University of Michigan	12	58,989
University of North Carolina	30	33,169
University of Texas at Austin	36	28,564
University of Florida	38	28,160
Florida State University	below 100	10,459
Total Florida SUS		$ 48,429

Source: National Science Foundation, Federal Support to Universities, Colleges, and Selected Nonprofit Institutions, Fiscal Year 1975.

TABLE 11
Effectiveness of graduate programs in Florida universities

Evaluation and ranking of programs
(National rankings)

Field	Attractive to extremely attractive	Attractive minus	Acceptable
Art History		Unranked among 19 universities	
Classics		Unranked among 28 universities	
French		Unranked among 47 universities	
German		Unranked among 38 universities	
Linguistics		Unranked among 24 universities	
Philosophy		Unranked among 49 universities	
Russian		Unranked among 13 universities	
Spanish		Unranked among 45 universities	
Anthropology		Unranked among 32 universities	
Astronomy		Unranked among 23 universities	
Economics		Unranked among 44 universities	
English			UF (42)*
Music			FSU (23)
Geography			UF (19)
History			UF (42)
Political science			UF & FSU (51)
Psychology			FSU (32)
Sociology			UF & FSU (50)
Biochemistry			UF & FSU (42)
Botany			UF & FSU (43)
Developmental biology			UF & FSU (43)
Entomology			UF (26)
Microbiology			UF & FSU (51)
Molecular biology			FSU (48)
Pharmacy			UF (34)
Physiology			UF & FSU (54)
Population biology			UF (37)
Zoology			UF & FSU (28)
Chemistry		FSU (29)	UF (55)
Geology			FSU (36)
Mathematics			UF & FSU (44)
Physics			UF & FSU (48)
Chemical engineering			UF (38)
Civil engineering			UF (31)
Electrical engineering			UF (25)
Mechanical engineering			UF (25)

*Numbers in parentheses indicate national rankings of programs among universities. For all programs except Chemistry at FSU, numbers represent average or mid-point for a group of programs evaluated "acceptable." Using the mid-point for such groupings as the rank for UF and FSU programs, the average rank of programs in the 26 programs evaluated "acceptable" or better was 40th nationally.

Source: Roose, K. P. and Andersen, C. J., A Rating of Graduate Programs, American Council on Education, 1970.

Table 12 compares the results of the study in Florida with its findings in California, Michigan, North Carolina, and Texas. The University of California—Berkeley had 30 of its 35 programs included in the study ranked in the highest category, "extremely attractive." All 35 of the programs were ranked higher than "acceptable." The University of Michigan had 34 of its 36 graduate programs studied ranked higher than "acceptable." And Texas and North Carolina had 12 and 19 programs respectively ranked higher than "acceptable" while Florida universities had only one.

The specific national rankings of programs studied also shows California far out in front *(see Table 13)*. The University of California system had the highest ranked program in three of the 36 disciplines studied, 30 programs ranked among the top five nationally, 45 in the top ten, and 80 in the top twenty. Florida did not have a single program among the 36 studied that ranked in the top twenty nationally.

Professional schools. Peter Blau and Rebecca Margulies, sociologists at Columbia University, evaluated the reputations of the top schools and colleges in 18 professional fields; their results were reported in *Change* magazine (Winter, 1974–75).

The ranking of the reputations of programs in 18 fields are based on the views of deans of 1,251 accredited and university affiliated schools *(see Table 14)*.

Once again, California is far ahead of all the other states, in the rankings of university programs, with Michigan close behind. And once again, other southern states outclassed Florida.

The University of Alabama, for example, had two programs ranked among the top five nationally. The public universities in North Carolina had three programs ranked among the top five nationally. There were no programs in Florida universities ranked in this study. In fact, Florida was the only state among the 10 most populous states in the

TABLE 12

Summary of evaluation of graduate programs

University	Number of disciplines in which programs were rated	Attractive to extremely attractive	Attractive	Mean	Acceptable
University of California—Berkeley					
University of Michigan				83	
University of North Carolina				15	
University of Texas				0	
University of Florida					
Florida State University					

Source: Roose, K. P. and Andersen, C. J., A Rating of Graduate Programs (American Council on Educat

TABLE 13

Summary of ranking of graduate programs

University	Top 5	Top 10	Number of University Pr	National Ran
University of California—Berkeley				
Other University of California branches				
Total University of California System				
University of Michigan				
University of North Carolina				
University of Texas				
Total State University System of Florida				

Source: Roose, K. P. and Andersen, C. J., A

nation which had no professional programs ranked among the most outstanding programs nationally. Florida and Louisiana were the only two states among the 25 most populous states which had no ranked programs.

Education, law, and business. The late Allan Cartter sampled the opinions of "practicing scholars," rather than deans, in ranking 51 Ph.D. programs in business, 91 schools of law (all university-affiliated and granting more than 75 degrees a year), and 81 doctoral programs in education *(see Table 15)*.

Once again, California's universities far outranked those in other states. The University of Texas had all three schools ranked among the top ten public institutions, and the University of North Carolina's schools of business and law were also ranked among the top ten. No Florida universities made it into the ranks of the top ten. Using the mid-points for the rankings, the five Florida programs which were studied received an average ranking of 33rd nationally.

TABLE 14
Summary of ranking schools in 18 professional fields

	Public Universities		
	First	Top 5	Total Number Ranked*
Alabama	1	2	2
California	4	9	17
Michigan	2	8	14
North Carolina	1	3	4
Texas	0	1	2
Florida	0	0	0

*Number of rankings ranged from five to 12 for the various disciplines.

Source: Blau, P. M., and Margulies, R. A., "The Reputation of American Professional Schools," *Change* (Winter 1974–75).

TABLE 15
Rank of colleges of business, education and law

Institution	National Ranking[a] Business	Education	Law
Stanford University	1	1	3
University of California—Berkeley	6 (1)	5 (2)	6 (2)
University of California—Los Angeles	8 (2)	4 (1)	10 (4)
University of Michigan	Second 10 (4)	9 (5)	4 (1)
University of North Carolina	Second 10 (8)	Second 10	Second 10 (9)
University of Texas	Second 10 (9)	Second 10 (9)	Second 10 (5)
University of Florida	Fourth 10	Second 10	Fourth 10
Florida State University	Unranked	Third 10	Seventh 10

[a]Figures in parentheses represent ranking among public universities only.

Source: "The Cartter Report of the Leading Schools of Education, Law, and Business," *Change* (February, 1977).

Financial Support

There are no precise standards by which levels of financial support for a university or a state's higher education system may be evaluated. Every state—indeed, every university—has a different mix of programs and students, making precise comparisons between states and universities difficult, if not impossible.

The most meaningful approach would be to compare the costs or levels of financial support for educating students at comparable levels in comparable disciplines. Although Florida has made substantial progress in recent years in developing such cost data, comparable data are not available in most other states for meaningful comparisons.

It is, of course, possible to make precise comparisons of faculty salary or total compensation levels from one state to another as well as certain other measures of financial support. It is also possible to reflect how levels of support for universities in Florida have kept pace with inflation or with funding in other states in recent years. Most university-to-university or state-to-state comparisons, however, are less specific and direct. Despite this fact, many of the more indirect comparisons may provide valuable measures of basic levels of university financial support.

Support per capita and level of of personal income

Among the fifty states, Florida ranks 40th in its level of funding of higher education per capita. On this measure, California ranks 10th, North Carolina 17th, Texas 18th (*see Table 16*). Only one southern state, Tennessee, ranked lower than Florida in per capita appropriations for higher education.

To eliminate Florida's retired population from the comparison, appropriations per person in the 18-to-64 age bracket were calculated. On this measure Florida's rank among the states remains the same—40th. Thus Florida's large retired population does not explain our state's low standing in appropriations per capita for higher education.

Comparing appropriations per $1,000 of personal income, Florida ranks 39th among the states (*see Table 16*). No other southern state ranks below Florida in this measure of support for higher education.

Support per student

The total dollars expended per student are a more direct indication of the level of financial support for higher education among the several states. Such aggregate figures, though they do not take into account differences in the mix of programs from one state to another, do provide an indication of the relative level of support among states. A recent report (*Public Policy in Florida—A Fifty State Perspective*, by T.R. Dye) indicates that in 1975

Florida ranked 43rd among the states in total expenditure per student for higher education. That ranking includes expenditures for community colleges as well as for the state's university system.

That same report discloses that in 1977 Florida ranked 24th among the states in total expenditures per student for elementary and secondary education. Thus Florida's support for public schools ranks substantially higher than its support for colleges and universities.

Salary Levels

Several national studies of faculty salaries are available for comparative purposes. The study that is used most extensively is conducted by the American Association of University Professors (AAUP) and involves a wide spectrum of institutions nationally. Oklahoma State University surveys some fifty-two colleges and universities throughout the nation. The State University System of New York (SUNY) studies two groups of institutions, including thirty-three universities and twenty-five colleges.

Table 17 compares the average salaries determined by the three studies with the average salary in Florida's state universities. (In the AAUP and the SUNY studies, average salaries are adjusted to reflect a mix of institutions comparable to those of the Florida system.)

All three of these well-recognized studies found average salaries nationally to be higher than average salaries in the Florida system. Indeed, the national salary averages, as reflected by these studies, are some 7 percent higher than those for Florida.

Faculty salary data for four prominent state universities are compared with faculty salary data for the University of Florida in Table 18. These data, taken from AAUP studies, show that the greatest differential in salaries between these four other universities and the University of Florida occurred at the full-professor level. On the average, the salary level for full professors at these four universities was 17 percent greater than at the University of Florida.

Various studies indicate that Florida universities are at an even greater disadvantage when total compensation (salaries plus fringe benefits) is considered.

A recent summary of appropriations data provides further information concerning the treatment of faculty salaries within the University System of Florida within recent years. Figure 4, taken from these data, indicates that in the 5-year period from 1972-73 to 1977-78, the consumer price index increased 46 percent. During this same period, faculty salary per position increased 38 percent, while salary per Career Service position increased 53 percent to follow the increases given other state employees. University Administrative and Professional employees, including "administrators" received the same average increases as faculty. These data clearly indicate that during this period faculty salaries did not keep pace either with inflation or with the rate of increase in salaries for other state personnel.

Appropriations for universities over the past decade

In making an appraisal of current levels of university funding, it is instructive to examine the magnitude of increases in appropriations to universities during the past decade. Such an appraisal is particularly meaningful in light of the significant increases in enrollment and inflation during this period.

A recent summary of appropriations data covering the period 1968–1977, compiled by the Department of Administration, provides the basis for making some detailed analyses of what has transpired during this period. In attempting to assess the changes in university funding during this period, it is helpful to examine changes in funding of state government generally as well as other segments of education within the State.

During this period enrollment in the state's university system increased 75 percent while public school enrollment increased 19.7 percent and the state's population grew by 29.7 percent *(see Figure 5)*. All segments of state government received major increases during that period, so the increases in funding should be compared with respect to increases in workload and with an eye on the consequences of inflation.

If we take the state population to be the workload unit of state government and the numbers of students as the workload measures of the educational system, we can compare changes in funding per workload

TABLE 16
Rank among 50 states by levels of financial support for higher education

Support per capita		Support per $1,000 of personal income	
California	10th	North Carolina	13th
North Carolina	17th	Texas	19th
Texas	18th	California	21st
Michigan	25th	Michigan	33rd
Florida	40th	Florida	39th

Source: Chronicle of Higher Education, October 25, 1977.

TABLE 17
Comparison of average faculty salaries (1975–1976)

Survey	Average Salary All Institutions Surveyed	% Increase in Florida Salaries to Reach Average*
AAUP	$17,960	7.6%
Oklahoma State University	17,494	4.8
State University of New York	18,095	8.4

*Average salary level in Florida was $16,700 at time survey was made.

TABLE 18
Faculty salaries in selected universities (1976–1977)

University	Professor (000s)	Associate Professor (000s)	Assistant Professor (000s)
University of California	$27.9	$19.5	$16.1
University of Michigan	28.0	20.1	16.3
University of North Carolina (Chapel Hill)	27.7	19.8	16.1
University of Texas (Austin)	27.1	19.6	16.1
Salary average of above four universities	27.6	19.7	16.1
University of Florida	23.6	18.2	15.6
Less than average by	4.0	1.5	0.5
Salary average of other four universities exceeds University of Florida by	17.0%	8.2%	3.2%

Source: Association of American University Professors, AAUP Bulletin, Vol. 63, No. 3 (August, 1977).

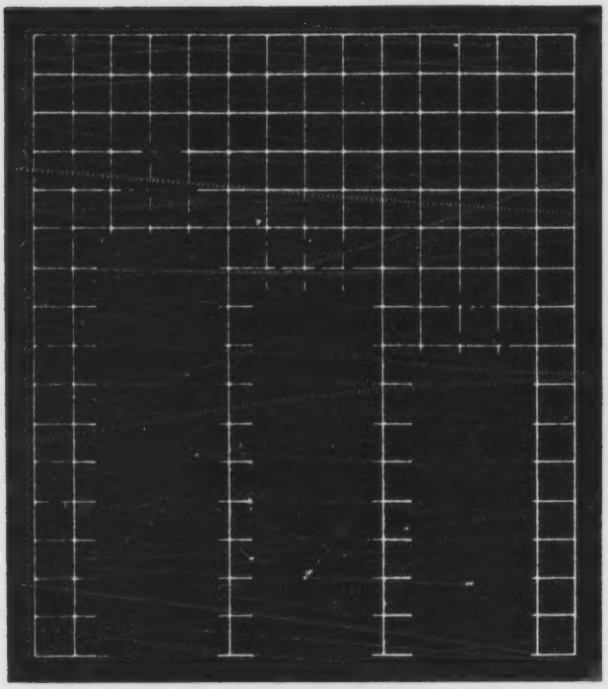


FIGURE 4
Change in salary and benefits for university faculty and other state personnel in relation to the consumer price index 1972–73 to 1977–78

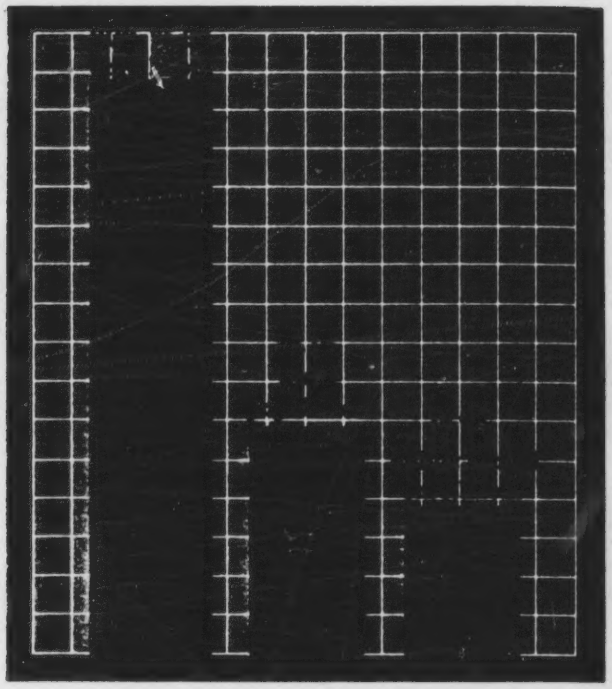


FIGURE 5
Increase in workload measures in Florida's public schools, universities, and state government, 1968–1977

unit within the universities, the public schools, and in state government generally. In the interval covered by the Department of Administration's summary of appropriations, state government expenditures per capita, in constant dollars, increased 26.6 percent *(see Figure 6)*. Public school funding per student, including funds from both state and local sources, increased 15.1 percent. But university funding per student decreased 10 percent. Indeed, general revenue funding per student in the state's universities decreased almost 20 percent. Large increases in fees charged to students during this period made up the difference between the 10 percent drop in total appropriations and the 20 percent drop in general revenue appropriations per student.

The Florida Department of Education recently released statistics indicating how expenditures per student in constant dollars had changed during the decade 1965–75 in Florida and throughout the rest of the nation. These data are shown in Figure 7 indicating that while the constant dollar expenditure per student in Florida went *down* 22 percent during this decade, the constant dollar expenditure per student nationally went *up* 32 percent during the same period.

The Department of Administration and Department of Education data emphasize the fact that in recent years appropriations per student in higher education in Florida have not kept pace with appropriations increases for other segments of Florida state government or with higher education nationally. Indeed, inflation and rapid enrollment growth have resulted in an overall reduction in support per university student during this period—expressed in constant or non-inflated dollars.

There is much evidence to indicate that the Florida University System was not adequately funded at the beginning of the decade for which these comparisons have been made. The evidence is abundantly clear that the financial support is even more inadequate at the end of this period.

Some have suggested that there is nothing unique in the fact that expenditures per student in constant or non-inflated dollars have declined in recent years, contending that the same has happened to the income of Florida citizens. This is not the case, however. Indeed, in the 10-year period from 1966 to 1976, U.S. Department of Commerce data indicate that the personal income per capita (expressed in constant 1967 dollars) increased 34.7% for Florida's citizens—from an average figure of $2,659 in 1966 to $3,582 in 1976.

It is quite apparent that while expenditures per student in Florida's universities declined during the last decade, Florida's personal income per capita *increased* very significantly.

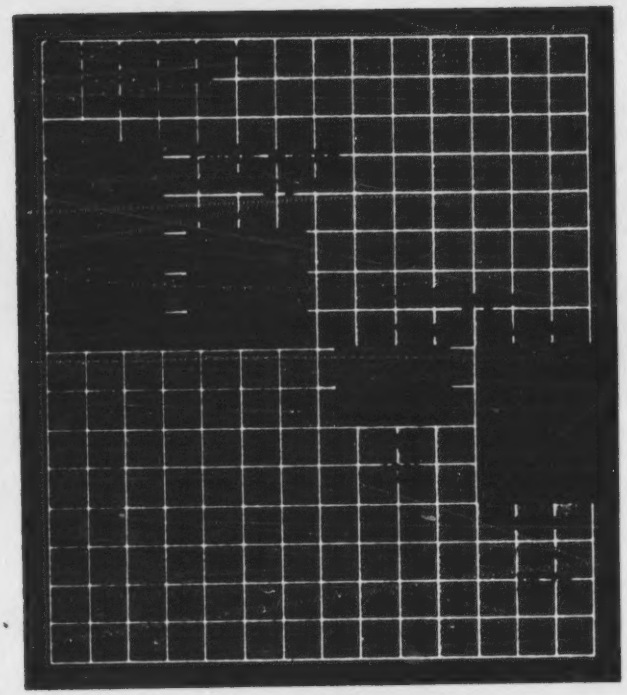


FIGURE 6
Change in funding per workload unit in Florida's public schools, universities, and state government generally, 1968–1977 (in constant 1967 $'s)

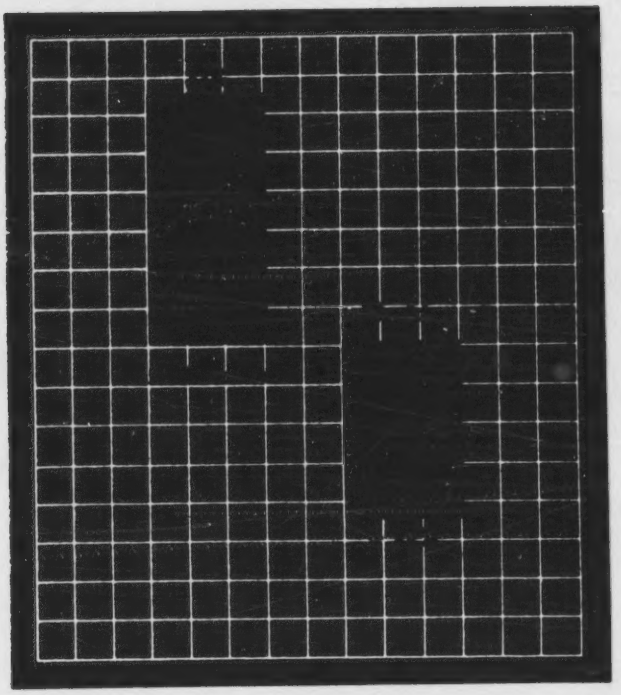
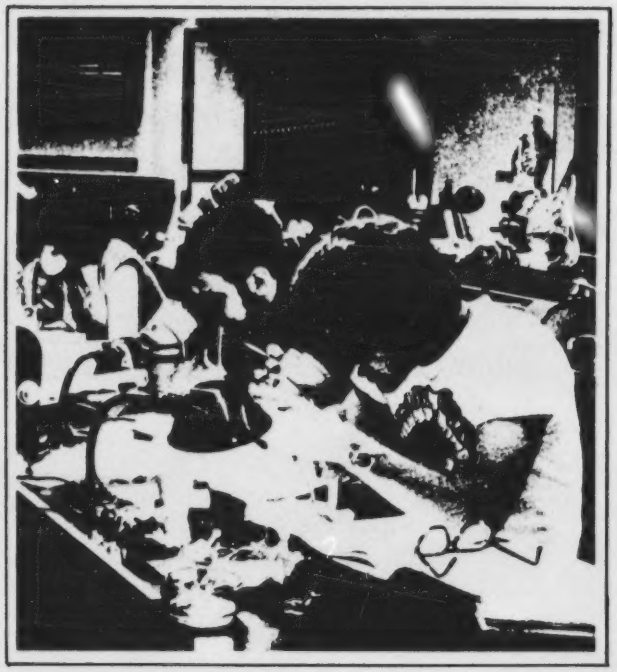


FIGURE 7
Percentage change in expenditures per student 1965–1975, United States public higher education and Florida public higher education (in constant dollars)

The Adequacy of Current Financial Support

Florida's universities are lagging significantly behind universities in other parts of the country in most measures of quality. Clearly Florida's universities are also lagging behind better universities elsewhere in the state financial support they receive. During the last decade, despite significant increases in funding to accommodate growing numbers of students, Florida's universities have lost competitive position as support per student (measured in constant dollars) has declined. These changes have severely limited Florida's universities in their efforts to improve the quality of education, research, and public service.

In "Reputational Ratings of Doctoral Programs" (*Science*, 24 March 1978), R.T. Harnett, M.J. Clark, and L.L. Baird dealt with the quality of various university programs as reflected in peer evaluations. The programs which receive the higher peer evaluations, they find, have some of the following characteristics: they tend to be relatively large, to pay higher salaries to their full professors, to have faculty members who received graduate training from distinguished departments or universities, to be successful in bringing in research funding from nonuniversity sources, to make contributions to



scientific and other scholarly literature, to emphasize the training of researchers, and to have better physical and financial resources available. The study also pointed out that as the ratio of students to faculty members increases the quality of university programs decreases.

Most of the factors that contribute to high peer evaluation are obviously related directly to levels of program funding. Without question, the institutions that have the reputation for quality and excellence or that score well on various measures of program quality are the institutions that are most fortunate in their financial resources. The top ten or twenty-five schools in the country are almost certainly the top ten or twenty-five in total financial support as well.

Although high levels of funding will not in themselves ensure high-quality programs, such programs cannot be achieved without reasonably ample financial resources.

In university teaching, research, and service to the community—as in many other sectors of our economy—price is closely related to quality.

Florida's Tax Base and Tax Potential

What accounts for Florida's comparatively low level of financial support for higher education? Are Florida's universities given a lower priority in state funding than are universities in most other states? Or is the low level of support a consequence of a tax base that is inadequate to generate needed financial resources?

Higher education's share of total state budget

Recent studies indicate that higher education in Florida receives a slightly larger share of state revenue than the average share for other states. Using the Federal Government's definition of state general revenue, Florida ranks 17th among the states in the percentage of general revenue allocated to higher education. Michigan ranks 24th; California, 13th; North Carolina, 3rd; and Texas, 2nd.

Texas and North Carolina have thus moved ahead of Florida in higher education in part because they have placed a much higher priority on higher education in the allocation of tax revenue. Yet even if Florida were to increase the percentage of its general revenue allocated to higher education to equal the percentage allocated by North Carolina, Florida would still rank below the mid point among the states in higher education expenditures per capita, improving only to 28th place. In expenditures per capita as a percentage of personal income, Florida would improve only to 30th place.

Florida's tax base

Florida ranks near the bottom of the list of all states in various measures of state and local tax revenue generated by each resident.

According to U.S. Department of Commerce data, in 1976, in state and local tax revenue per capita, Florida ranked 41st among the states. Between 1953 and 1976, only one state (Oklahoma) had a percentage increase in state and local tax revenue per capita smaller than Florida's.

Some observers have cited the relatively large retired population in Florida as a reason for Florida's low ranking in state and local tax revenue per capita. While Florida's retired population may decrease somewhat its per capita tax revenue, the sizeable tax revenue generated by tourism is an offsetting factor that relieves some of the tax burden on Florida's citizens. Indeed, it is estimated that tourists pay approximately 19 percent of the total sales tax in Florida plus significant amounts in gasoline and other taxes.

Even though many retired persons in Florida have relatively low incomes, and even though non-Florida tourists contribute significant tax revenues, in 1976, in state and local tax revenue as a percent of personal income, Florida ranked 48th among the states. Between 1953 and 1976, only one state (North Dakota) had a percentage increase in state and local tax revenue as a percent of personal income smaller than Florida's.

A study by the Council of State Governments reported in *U.S. News and World Report* (31 May 1976) calculated the taxes paid by hypothetical families in the largest cities in the 48 contiguous states. This study estimated that a Florida family with $10,000 income in 1974 paid an average of $492 in state and local taxes. In only one state (Louisiana) did such a family pay an average tax lower than Florida's.

The same study indicated that a family with a $24,000 income in Florida paid the lowest level of state and local taxes in the nation—a total of $863 annually. Louisiana was second lowest with an average payment of $932. The average state and local tax payment by families with incomes of $24,000 in Alabama, Georgia, North Carolina, South Carolina, Kentucky, and Arkansas was more than twice the level paid by a comparable Florida family. The tax level for the comparable Wisconsin family was more than four times that of the Florida family.

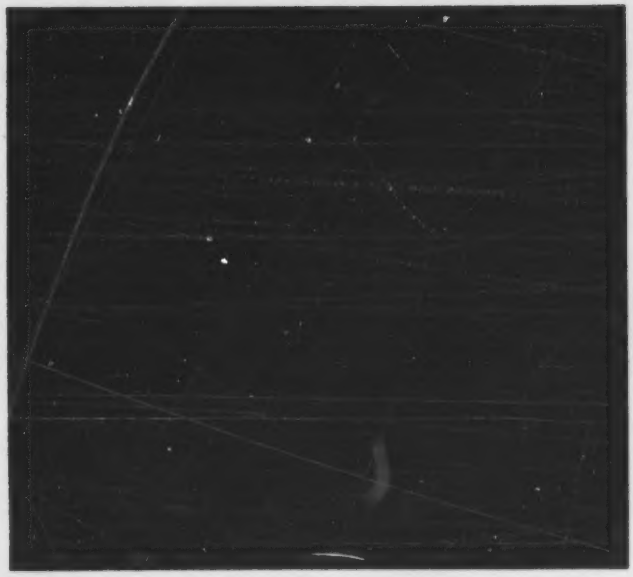
Florida's tax potential

For the past ten years the Southern Regional Education Board (SREB) has compiled data on the tax efforts of the various states. The study determines the average rates of state and local tax collections by specific tax sources. Collections in each state are then measured against national averages, and potential collections are computed. The "tax potential" for each state is defined as the amount of revenue from a given tax source that would be collected if a state's rate for the tax equaled the national average. Finally, potential and actual tax collections are compared to determine, based on national norms for each tax source, how much states are underutilizing or overutilizing their ability to collect taxes.

The results of the 1976 study indicate that Florida ranks 47th among the states in utilizing its tax potential. Florida's net unutilized tax capacity in 1976 was some $1.36 billion. This figure compares with actual tax collections of $4.87 billion. Based on national norms for the various tax sources, Florida is thus utilizing only some 78 percent of its state and local tax capacity.

In utilized state and local tax capacity per $1,000 of personal income, Florida ranks 46th among the states.

Florida's Universities and Florida's Future



In a speech before the 1978 annual meeting of the Southern Regional Education Board, West Virginia Governor John D. Rockefeller, IV, said: "The future of my state is inexorably tied to the future of my state's universities."

A similar relationship exists in Florida. Recognizing this fact, the Commission has placed great emphasis upon the development of university programs of highest quality in order that the state can best be served by its universities.

Such emphasis upon quality is made in recognition of the highly competitive nature of our contemporary society and the vital role higher education plays in our society. It is a fact that those states which have the better institutions of higher learning will enjoy a significant competitive advantage in those areas which are influenced or impacted by higher education.

There are numerous ways in which the State's future may be influenced by the quality of university programs. Especially important are the relationships between quality university programs and the development and more effective use of the State's physical and human resources as well as the quality of living for its citizens. Some of these relationships are examined in greater detail in the following sections.

Economic development

Florida is now placing great emphasis upon economic development efforts. The same can be said of most other states as all sections of the nation are engaged in a continuing struggle to attract more business and industry and to expand what is already there.

While much emphasis is placed on tax incentives to attract new business or industry to a state, many would contend that quality education programs provide a greater attraction to business and industry than any other factor. Richard Miller, Vice President of the Arvida Corporation, a large development company in South Florida, recently made the following observation: "Over the past year, Arvida Corporation has had conversations with more than 100 companies considering new facilities or relocation to this area. . . . Without a doubt the single most important concern of these companies is the commitment which the State of Florida is making to education. This includes education at all levels. . . . The University System is extremely important to scientific and high technology companies in their quest to keep their employees at the forefront of knowledge."

TABLE 18

Relationship between the Ranking of States by Number of National Academy of Science Members and the Numbers of "Fortune 500" Companies*

	Rank by NAS Members	Rank by "Fortune 500" Companies
[illegible]	1	3
	2	13
	3	1
	4	2
	5	9
	6	16
	[illegible]	8
	[illegible]	5
	9	10
	[illegible]	14
	16	18

Some additional reasons for business and industry leaders to support quality higher education programs were expressed by Fred H. Ramseur, Jr., President, Cities Service Oil Company, who recently said:

"The business community cannot succeed—financially or as a social catalyst—without contributions from the academic world." He further emphasized that the business community needs trained people to bring into their businesses, to update their skills, and to further develop their abilities. He added that businesses must call upon the expertise and broad knowledge found in universities for research and imaginative thinking.

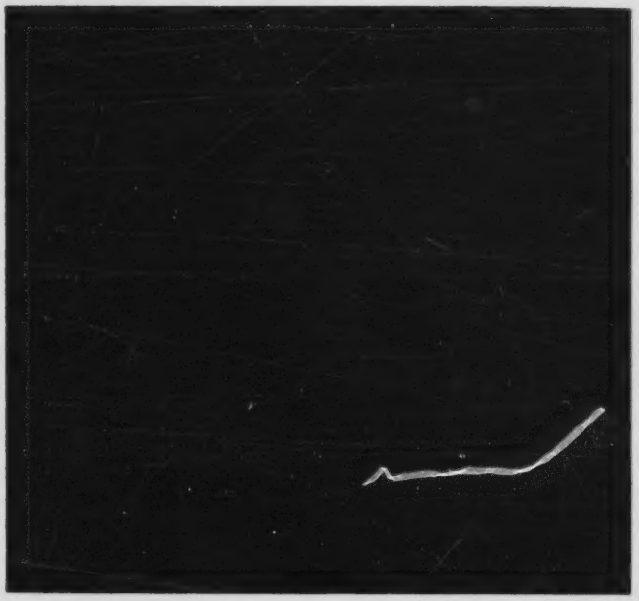
The contributions of quality higher education to business and educational development have long been recognized in other states. Space scientist Wernher Von Braun, in an appearance before the Alabama Legislature several years ago, made this statement: "What do you think attracted the aircraft industry to the Los Angeles area? The desert and smog? No, it was UCLA and the other great universities there."

Pat Brown, while serving as Governor of California in the 1960s, said it another way: "If you want to have a payroll to meet the first thing you do is to (1) get yourself some Nobel Prize winners or other intellectuals who have never met a payroll and they will, in turn, (2) attract government research and development contracts that will (3) attract industry that will (4) produce jobs which will (5) finally produce votes. It all starts with the brains."

In North Carolina, the Research Triangle Park, drawing upon the resources of Duke University, the University of North Carolina, and North Carolina State, attracted major private corporations and federal research agencies to that area and has accelerated the economic progress of the Carolinas. The resources of MIT and Harvard have also attracted a large concentration of high technology industries to the Boston area.

A recent study by the staff of the Florida Board of Regents indicated a close correlation between quality of university faculty, as reflected by membership in the prestigious National Academy of Sciences (NAS), and the level of industrial development, as represented by the number of *Fortune* magazine's "top 500" corporations which are headquartered in the state. All of the states which rank in the top 20 by number of NAS members are also in the top 21 as ranked by number of "Fortune 500" companies.

Of the top 10 states in NAS members and "Fortune 500" companies, six ranked among the 10 leading states in per capita personal income. Only North Carolina among the top 10 NAS states had a lower per capita personal income than Florida. Florida was ranked at 94% of the national average in per capita personal income.



It is increasingly apparent that, if Florida hopes to be competitive with other parts of the nation in economic development efforts, it must also be competitive in the development and maintenance of quality programs of higher education.

Ability to attract federal funding

An earlier section emphasized the close relationship between the quality of university programs and the ability to attract federal funding. It was pointed out that Florida has only one public university among the top 100 in the nation in the level of federal contract and grant funding.

This relatively low level of federal funding has a significant impact upon Florida's total economy. For example, if the level of federal funding in Florida's nine public universities equaled that of the University of California's nine campuses, some 250 million additional dollars would be pumped into Florida's economy annually.

There is great rejoicing in the state when a new industry with an annual payroll of $5 million or $10 million locates in Florida. The University System, in effect, represents a great industry already in place which has the potential to attract literally hundreds of millions of dollars in external funding to the State annually. The realization of that potential is dependent primarily upon the development and maintenance of high quality university programs.

Florida ranks 48th among the 50 states in per capita allocation of federal funds.[1] One reason for such a low ranking is the fact that Florida's universities are not more strongly competitive in attracting federal funds.

[1] State Rankings per Capita of Federal Aid to States. Fiscal year 1977. The Florida Department of Administration.

Ability to attract and hold talented young people

Perhaps the most meaningful long-term benefit from high quality universities is the ability to hold young people in the State and attract outstanding talent from other states and nations.

The significant loss of many of Florida's most outstanding high school graduates who go to prestigious universities outside the state has been noted. In a like manner, the absence of superior universities in Florida limits the in-migration of better students from outside the state.

The inability of Florida's universities to attract the country's best young minds will have a serious long-term effect upon the state. Many of the more talented young people who go out of the state to study never return. Similarly, if Florida were more competitive for outstanding out-of-state students, the State would benefit from many of them remaining here upon graduation.

Further, many students who graduate from a Florida university may be put at a disadvantage in competing with graduates of more prestigious universities elsewhere. Consider, for example, the better employment opportunities and much higher salaries which the average Business or Law graduate from Harvard or Stanford can command in comparison with the average graduate of a Florida university. In view of the value to the individual of an education from some of the better universities in other states, it is appropriate to ask if it is fair to the young people of Florida not to provide them opportunities in higher education equal to that afforded elsewhere in the nation.

The failure of many foreign students to come to Florida because our universities do not compare favorably with many institutions elsewhere may have a significant long-range impact upon the state. Such students usually return to their home countries and in relatively short time assume positions of leadership in government, business, and commerce. Because of their knowledge of a given state and their positive attitude towards it, such graduates are frequently in a position to help establish business, industrial, or trade relations between their countries and the state in which they attended college—relationships which might otherwise never develop.

Recently, a Florida businessman, with extensive operations in Saudi Arabia, expressed great concern that of the some 6,000 Saudi Arabian students attending college in the United States, only a "handful" were in Florida. Most of them, he pointed out, are attending California institutions because of their reputation for high quality programs. The significance of this was readily apparent to the Florida businessman in view of the great opportunities for business and trade relations with this oil-rich Arab country.

Latin American students, in addition, offer Florida the opportunity to build strong relationships with our neighbors to the south. This could well pay long-term dividends in terms of Florida's economic and cultural relations with these countries.

Ability of the state to resolve major problems through research and service

Florida's future will be determined in large measure by the state's ability to address and resolve major problems which may limit its development or the realization of desired goals. The solution to these problems will be primarily dependent upon the development and application of knowledge which, of course, is a basic mission of a university.

For example, one of Florida's and the nation's greatest problems and challenges is energy—especially the development of alternative sources of energy to fossil fuels. Research, such as that carried on in the state's universities, must ultimately provide solutions to this problem.

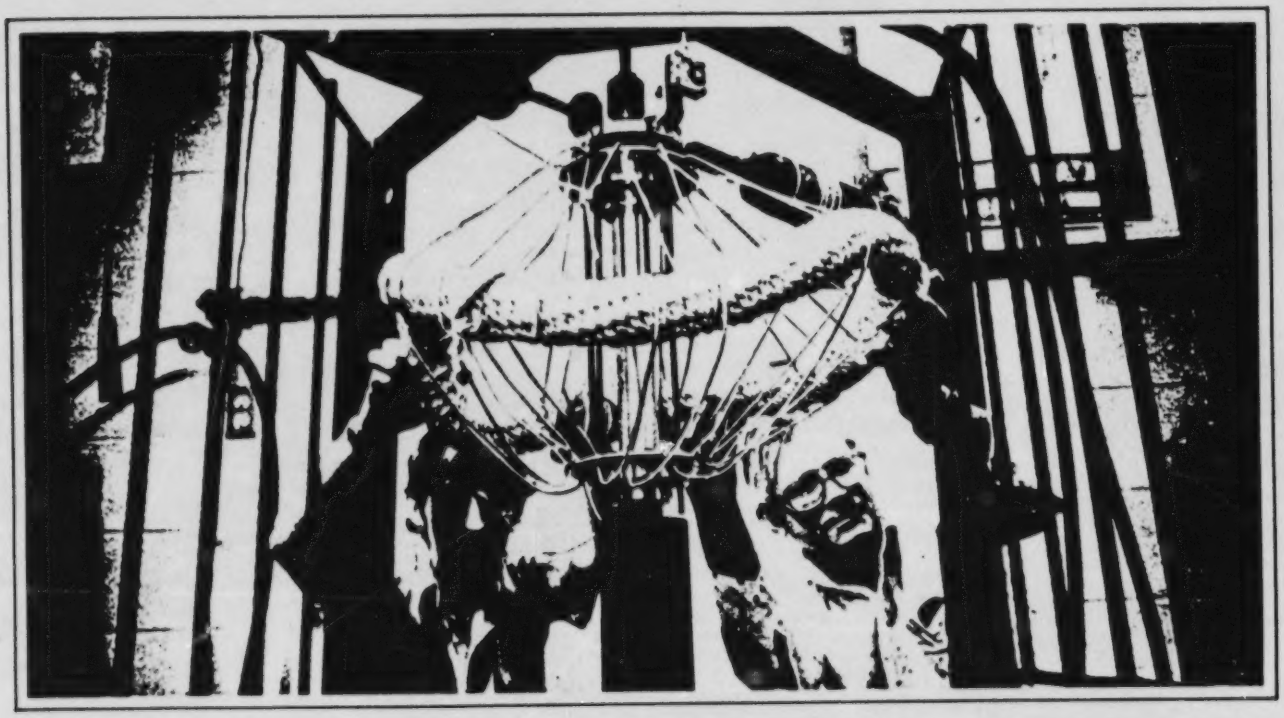
Universities must also be concerned with finding solutions to many of the troublesome problems facing society today, such as those of the environment and health care as well as the special problems in agriculture, business and industry which may limit the development of these important segments of the State's economy.

The potential for university developmental and problem-solving research has been amply demonstrated in the research and service program at the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida. IFAS research programs have, for example, developed environmentally safe means for controlling and eradicating insect and disease pests which could have destroyed major segments of the state's agriculture. Such research programs have also contributed to the further growth and development of Florida's dynamic agricultural industry through the creation of new varieties of crops or improved breeds of livestock or through the development of improved cultural and management practices. These programs have undergirded and, in large measure, made possible the development of Florida's multi-billion dollar agricultural industry.

The economic returns to the State of these programs in IFAS amount to many times what the State appropriates to the entire University System annually. These programs in agriculture illustrate the opportunity and potential for systemwide university research and service programs to address a wide array of problems which face the State and could limit its further development.

If universities are to make their greatest impact and contributions in the area of research and service, they must have programs of highest quality. The more able the scientists, the better quality the research—the greater the likelihood of success in these endeavors.

If past experience is to guide our planning for the future, we cannot doubt the significance of basic and applied research. Over the past century such research, both industrially and educationally based, has provided the major technological breakthroughs that have improved the economic well-being of our nation and the quality of life for our citizens. The investment in research—in the bringing together and supporting of acute, creative, and highly trained minds in universities, in business, and in industrial laboratories—has kept our country competitive.



As our national investment in research has dropped over the past 15 years, other nations with stronger commitments to research have begun to overtake us in world markets while they gain on us in living standards. Even the People's Republic of China has declared its intention to overtake us in several fields within 10 years by a massive investment in basic and applied scientific research. If we are to build for our society's future, we must reaffirm our commitment to the kind of research that produced the greatest century of progress in the history of the world.

Excellence in research can have short-term benefits for Florida as well. It can attract the most desirable industrial growth, assist in economic development, create jobs, and directly support better university instruction.

Where centers of excellence in university-based research developed, where a firm commitment to scholarship and research was demonstrated by reliable funding, business and industry have flourished, the economy has expanded, property values and living standards have climbed. And those social and economic developments in turn supported the universities' commitment to and increased their capacities for quality.

concerning ourselves with its quality. Now that the state has provided readily accessible programs for the prospective student, the university system should be charged with maintaining high standards in curriculum, instruction, and faculty retention policies to assure that the State of Florida can take pride in its public universities. This Commission has resolved that whenever a choice must be made, whether for financial or other reasons, between increasing access or increasing quality, the pursuit of excellence should be given the higher priority.

The goals of higher education for the State of Florida must be adjusted. The people of Florida require not only opportunities for instruction made possible by diversity of programs and ready geographical access and the services made possible by a comprehensive university system; they also require programs that are distinguished by their excellence. To achieve such excellence will demand a commitment to excellence by the people of Florida and by their system of public universities. Money alone cannot buy quality, but without adequate funding, quality education is impossible to achieve. Since the State of Florida has responsibility for its university system, the first essential component of a commitment to quality is that the people of Florida, through their legislature, increase expenditures for public higher education. The university system, for its part, needs internally to manage its resources to develop faculty, programs, and a student body that can achieve excellence. Additionally, the university system needs to renew its commitment to respond to the community at large and to extend its wealth of talents, knowledge, and resources to enhance the well-being of the state through research and public service.

In the overall educational system of Florida, the state's university system is not an isolated endeavor but an integral component. In addition to their consequences for the economic, cultural, and political development of the entire state, the actions taken by the university system have an impact on all other levels of the educational system. This Commission is concerned by what appears to be a general dissatisfaction with education throughout Florida and the nation; the members of this Commission support the call from many sectors of our society for a reassessment and redirection of Florida's educational efforts. While unilateral action by the state's university system may be a course that will solve some immediate problems, the greater benefit will be derived only by closely coordinated efforts among all groups that are involved with education in Florida. Through coordinated efforts education in Florida can embark upon a cohesive, comprehensive plan, with the state's university system supplying the necessary initiative, to improve education at every level for all the people of the state.

High-Priority Recommendations

During its deliberations, this Commission examined the issues facing public higher education in Florida from three perspectives—quality, access, and finance. In completing their report, the Commission members desired to highlight the recommendations which they felt were essential to a quality State University System and to give them their strongest endorsement. There is no intent to rank the recommendations within this high priority grouping.

Outstanding students

Increasing the number of scholastically gifted students has a positive effect on a university's ability to create an environment of excellence. This Commission recommends that the universities within the State University System enlarge their efforts to increase the number of high school graduates with high academic ability who enroll in the State University System. Methods to recruit outstanding students, to permit early admission, to expand proficiency testing, and, most importantly, to award scholarships based on merit should be given high priority.

Programs of national distinction

This Commission recommends that the State University System identify and appropriately fund programs in selected academic disciplines in order to develop programs of national distinction. It must be recognized that this may result in unequal distribution of funding both within and among the universities of the State University System.

Faculty compensation

The extent to which a university can attract and support highly competent faculty determines, more than any other factor, whether the university reaches high levels of quality and distinction. This Commission, therefore, recommends an upgrading of faculty salaries with special emphasis on merit increases and an improved fringe benefit policy. Both are needed to enable the State University System to compete for faculty with universities whose salaries rank within the top twenty percent according to national surveys.

Research

Research is an inseparable part of an academic environment in higher education. The scholarly interplay between teaching and research expands knowledge and enriches instruction. Research also leads to practical solutions to community problems, to increased economic productivity, and to an improved physical environment. In many ways, the quality of research is indicative of the level of economic development and the quality of life in the State and nation. This Commission recommends that research activity in the State University System, both basic and applied, be intensified and that the wealth of research conducted within the State University System be made accessible to business, industry, consumers, other educational institutions, and the public at large.

Independent and Public Institutions of Higher Education

The people of Florida will be more effectively served if needless duplication in educational programs throughout the state is eliminated. This Commission recommends that the existing resources among the State University System, the independent colleges, the business sector, and the public education system be developed in a coordinated manner, using the Postsecondary Education Commission (1202) whenever appropriate, to enhance the state's total educational effort. Florida's independent colleges and universities already provide some specialized programs, including curricula in law, medicine, and engineering. Whenever the need for programs within the State is indicated and such programs of quality and comparable cost are found to be already existing within independent colleges and universities, this Commission recommends that the State University System not initiate any new programs but contract with those schools for the needed programs.

Statewide access to instruction

In order to provide accessibility for place-bound students to as many programs as possible, programs may be duplicated in different areas of the State when such duplication does not result in reduction of quality. Programs that require large investments in specialized equipment and facilities or a large number of specialized faculty or both for high quality to be maintained should not be offered at each university. Some highly specialized programs should be offered only at one location. Other means should be found to provide access for place-bound students to those specialized programs.

Adult learners

The Florida Legislature, by providing appropriate funding, should support a public policy that enables the State's adult learners to have the educational resources and services of the public universities accessible to them throughout their lifetime and that assures such access shall be made available without regard to race, age, or sex.

State's development through the universities

Experience both in Florida and throughout the nation has shown conclusively that institutions of higher learning can have a significant impact on improving economic conditions. This Commission recommends that the State University System continue to contribute to the economic development of the state by making the instructional and research capabilities of the State University System accessible to business and industry already operating within the state and to those considering expansion or relocation to Florida.

Private funding

This Commission recognizes that student tuition and state tax revenues can provide a base for excellent programs in our public universities. However, the financial margin necessary to achieve national distinction must come from private gifts, grants, and contracts for sponsored programs. This Commission recommends that the State University System implement practices that encourage individuals, corporations, foundations, and government agencies to increase support to the state's public universities.

Tax support

By any of several different measures, the State of Florida now ranks with the bottom ten states nationally in support of higher education. This Commission recommends that the State of Florida view tax support of higher education as a very high-priority investment in the future of the state and act over the next several years to provide above-average tax support for the State University System so that Florida may be included among the top twenty states in the nation by 1990.

Consolidation

This Commission believes that the potential exists to expand the availability of postsecondary services, to increase the efficiency with which these services are provided, and to improve the quality of postsecondary experiences provided to Floridians. Accordingly, the Commission recommends that the Legislature authorize and fund a study by a body independent of both the Office of the Commissioner of Education and the Board of Regents to investigate the practicability of consolidation within the public postsecondary institutions in Florida.

Budget process

To fulfill the functions of planning for the future, directing current operating activities, and evaluating performance, the State University System needs an effective financial management system. This Commission recommends that the State University System seek the support of the Legislature and the Florida Department of Administration to develop an improved budgeting process, which should have the following characteristics:

(1) a realistic multiyear expenditure plan;
(2) a higher degree of delegated budget decision-making authority;
(3) less reliance on formulas;
(4) a closer linkage between fund allocations and program priorities as expressed in the role and scope statements of the several universities;
(5) greater incentives to reduce costs;
(6) greater flexibility to shift funds between category or type of expenditure within a given program or function;
(7) more useful data to compare the effectiveness of fund utilization at each university.

Faculty

Faculty compensation

The extent to which a university can attract and support highly competent faculty determines, more than any other factor, whether the university reaches high levels of quality and distinction. This Commission, therefore, recommends an upgrading of faculty salaries with special emphasis on merit increases and an improved fringe benefit policy. Both are needed to enable the State University System to compete for faculty with universities whose salaries rank within the top twenty percent according to national surveys.

This Commission observes that the average compensation for their full professors reported by all of the following nationally recognized public universities placed them in the upper twenty percent of U. S. universities granting the doctorate:

1. Michigan State University
2. Ohio State University
3. University of Wisconsin
4. University of Minnesota
5. University of Illinois—Urbana
6. University of North Carolina—Chapel Hill
7. University of Virginia
8. University of Michigan

In the same survey, Florida's three public universities granting the doctorate ranked in the lowest twenty percent. While entry level salaries in the SUS are generally competitive, it is doubtful that Florida can recruit or retain the number of senior teachers and renowned scholars that the state's needs require. This Commission observes that the achievement of the goal of recruiting and retaining scholars and teachers of outstanding merit requires that outstanding individuals be acknowledged and

warmly supported for their contributions. Therefore, this Commission recommends that salary policies established by the Board of Regents place strong emphasis upon rewarding demonstrated merit.

This Commission further notes that faculty and other professional personnel often value fringe benefits, including portable retirement and group insurance plans, more highly than if the same amount of money were provided in direct salaries. This Commission has also learned that the majority of the faculty retirement programs in the United States provide for vesting to begin in six years or less, while the retirement plan in Florida provides for total vesting at the end of 10 years. In competing with most other universities in the United States, this situation places Florida at a serious disadvantage.

The value of an outstanding faculty cannot be overstated inasmuch as the major function of a university is to teach. The implementation, therefore, of a competitive compensation and fringe benefit policy that will permit the State University System to attain a high level of quality in its faculty now requires major emphasis.

Faculty assessment

A system of faculty evaluation can provide valuable information to assist faculty members in their professional development and to provide a method of internal accountability. This Commission recommends that the State University System study methods to determine effective means of assessing the quality of faculty performance as teachers, as researchers, as providers of public service, and as advisors to students.

The primary aim of an evaluation system is to identify the real strengths of a professor's performance so that he or she may otherwise improve the quality of performance. While university professors undergo rigorous training to master the substance and methods of their academic disciplines, little attention has been given to the training of faculty members as teachers. And while it is relatively easy to evaluate the quality of a faculty member's research or public service endeavors, it is more difficult to judge how well a faculty member teaches. Not enough is known about how to measure a faculty member's teaching, whether that teaching takes place in the classroom, in the faculty member's office, or in any other setting where faculty-student interaction may occur.

If Florida's massive and widespread system of higher education is to achieve visible quality, faculty performance evaluation must become a scrupulous activity of the departments, colleges, and other academic units throughout the university system. Adequate resources must therefore be allocated to efforts to discover more workable systems of accurately measuring faculty performance.

Tenure study

The tenure system, like all other aspects of university life, should be reevaluated periodically to test its current validity and to make appropriate modifications. This Commission recommends that the State University System undertake a study of the tenure system now in effect, challenge its assumptions, and examine the entire process to satisfy itself that the tenure system, in fact, continues to be consistent with the State's basic educational goals.

Academic tenure is fundamental to the personnel policies of most American colleges and universities. An estimated ninety-four percent of all faculty members in American higher education are employed by institutions that confer tenure. Tenure exists in the State University System "in order that society may have a benefit of honest judgment and independent criticism. Tenure assures faculty members security of employment and immunity from reprisals or threats due to an intellectual position or belief which may be unpopular" (*Board of Regents Rule 6C—5.06*). A study should evaluate the tenure system in light of these stated purposes.

Perhaps of even greater moment than the purposes of tenure is the effectiveness of the tenure-granting process. Tenure decisions have long-range consequences for the State University System. For this reason, the criteria used in granting tenure should be complete and accurate descriptors of faculty members who will continue to function at a high level of productivity. The validity of these criteria should be verified.

Another concern is the balance between younger and older faculty. A faculty needs the freshness of new ideas as well as the wisdom of experienced instructors and researchers. During a period of rapid growth a balance can be maintained by adding new faculty. During a period of slower growth like that predicted for the 1980s, an imbalance can result when the tenured ranks expand but the total number of faculty remains the same. The study of tenure recommended by this Commission should investigate the likelihood of an imbalance occurring and evaluate its potential impact.

Alternatives to tenure should be explored. An alternative of rolling contracts is used by some community colleges. In this kind of system a faculty member is first awarded one or more one-year contracts during a probationary period of not more than seven years. If the faculty member successfully completes the probationary period, he or she is granted a three-year contract. Annual performance evaluations are made. Positive evaluations are rewarded with a new three-year contract. Negative evaluations give the faculty member two years in which to improve or be released. This and similar alternatives to tenure should be evaluated.

A university must have some flexibility to establish new programs to meet new needs. In a period of slow growth, this frequently means reducing or eliminating established programs. The tenure system may deter timely change. One possible solution that may be useful is a system of early retirements. Early retirements would increase the ability of a university to adjust its academic programs without neglecting the concerns of the faculty for economic security and academic freedom.

In recommending that the tenure system be reviewed, this Commission hopes to challenge the present tenure system so that it can be reevaluated and improved as needed for the general betterment of the State University System.

Need to maintain standards

At present administrators tend to continue the employment of tenured faculty members who are performing inadequately. While the procedures for removal of such faculty members from the State University System are cumbersome, they can be made to function. This Commission recommends that the State University System use the methods now available in the current tenure process to terminate those faculty members who continue to function in an unsatisfactory manner.

This Commission recognizes that the tenure system has helped to attract meritorious scholars to the state. Faculty, however, who fall below acceptable standards reflect negatively on the entire system. The administrators responsible for supervision of these faculty members should make all reasonable efforts to assist their instructors in the improvement of their performances. If these remedial efforts do not result in adequate improvements, this Commission recommends that the contracts of faculty who do not meet acceptable standards be terminated using the mechanisms now available within the tenure system.

Faculty renewal and development

In order to emphasize the importance of increasing excellence in the instructional program, this Commission recommends that the State University System set aside funds for programs of faculty renewal and development. These funds would be used to provide continuing supervision and assistance to faculty members as they undertake projects that will help them remain current in their disciplines and improve their instructional competence.

Teaching, research, and public service cannot be performed without competent faculty. The extent to which universities can attract, support, and enhance highly competent faculty, more than any other factor, determines whether academic programs reach levels of visible quality and distinction.

University faculty members, like other professionals, need opportunities to update their knowledge of their academic discipline and to remain current with new and better ways to teach. To provide faculty members with time and support for advanced study in their disciplines, for participation in scholarly meetings, seminars, workshops, and other professional service activities, funds are needed.

Since 1968 the Florida community colleges, under legislative mandate, have dedicated two percent of their annual operating budget to support staff development as well as innovative programs. The State University System needs to take the initiative by requesting funds from the legislature to support the improvement of faculty members' competencies as teachers and the development of improved curricula and innovative programs of instruction and student advisement.

Use of adjunct faculty

The hiring of adjunct faculty can have the effect of increasing the quality of overall instruction while maintaining a desirable degree of flexibility for a university. This Commission recommends the use of adjunct faculty with special talents in lieu of full-time faculty when this effect can be realized.

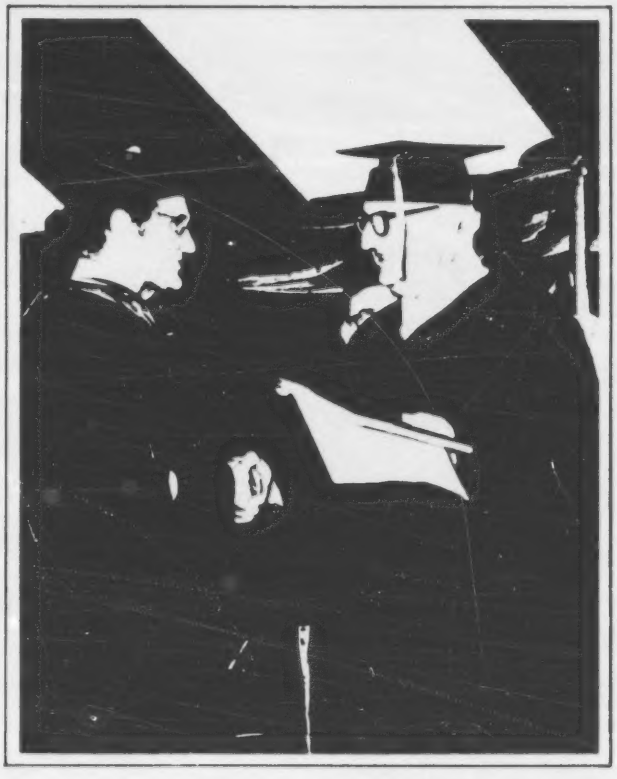
The most important reason for this Commission's interest in adjunct faculty is the conviction that a wealth of talent exists in Florida that could be employed to augment the talent in the State University System. The practical experience of successful people in government, agriculture, tourism, industry, entertainment, journalism, and many other fields can be an important addition to a student's classroom instruction.

The curriculum of a university must have the flexibility to meet the changing demands of the world of work and student interests. The hiring of part-time faculty can help to provide this flexibility without incurring long-term commitments associated with tenured faculty. Care should be taken, however, that this mechanism is used properly.

Differential faculty abilities

Each faculty member has special talents in teaching, research, and public service. This Commission recommends that the State University System recognize differential faculty abilities in making faculty assignments for teaching, conducting research, providing public service, and supervising students, thereby enabling each university to make better use of its faculty resources. This Commission also suggests that the universities establish systems of rewards and incentives that will recognize the intrinsic merits of teaching, research, and public service so that faculty members will be compared in a nonprejudicial manner when they are considered for promotion, tenure, and merit salary increases.

Although this Commission believes that universities already recognize differential faculty abilities in assigning teaching responsibilities, in allocating support for research, and in providing public service, the procedures for assessing faculty competencies in these three functional areas lack precision and objectivity and are therefore inadequate. It is a rare faculty member who is so versatile that he or she can excel in all three areas. Better ways must be found to identify an individual's capabilities so that talented teachers are used primarily in the classroom, creative researchers in the laboratories, and faculty members with special abilities to serve in community education and public service roles are assigned more frequently to such roles. This would not mean that faculty would work solely in one area or another but rather that the distribution of responsibilities specified in assignments would reflect without prejudice the faculty member's talents and abilities.



To assure that faculty performance will be considered equitably for promotion and tenure, criteria should be established in all three functional areas reflecting that a faculty member assigned heavily to any single area will be neither more nor less favorably treated than faculty members assigned more equally to teaching, research, and public service. In other words, a faculty member assigned primarily to teach will not be treated prejudicially because he is not productive in research or public service. Such a faculty assignment system would give students more access to the most effective teachers, the world of scholarship more access to the most capable researchers, and the public more access to individuals best qualified to deliver the services requested.

The keys to the establishment of such a system are (1) the clear identification of criteria by which faculty will be judged in the three functional areas, and (2) a precise and objective process of evaluation to determine how well faculty members meet the criteria. The State University System must invest the necessary money, time, and talent to devise the evaluation criteria and develop the assessment procedures that will implement the equitable recognition of differential faculty abilities.

Reward for superior teaching

Instruction needs to be accorded greater emphasis and recognition among the university's three major functions, teaching, research, and public service. This Commission recommends that the State University System adopt policies and implement procedures to reward superior teaching equivalent to those used to reward superior research and other creative activities.

This Commission affirms the belief that teaching, research, and public service are mutually supportive functions of universities. However, this Commission views with great concern the trend in many universities across the nation, and in the State University System as well, to overemphasize research activities to the detriment of quality instruction. The incentive and reward system that has tended to reward faculty more often for research performance than for competency in instruction may be partially to blame for the apparent imbalance. This Commission believes that more attention must be given to directing and stimulating faculty energies and talents toward improving teaching and the quality of curricula.

This Commission recommends that the State University System

(1) create a program to give statewide recognition and remuneration above and beyond that provided by the home university to a limited number of faculty members who demonstrate meritorious performance and make a significant contribution to the entire university system;
(2) increase the sharing of especially talented faculty on an inter-institutional basis, including joint appointments;
(3) attract outstanding visiting scholars;
(4) establish more endowed chairs within the university system.

The ideas offered above are suggestive of some strategies that might be employed by the universities and the university system as a whole to bring about the improvements needed in instruction and to redress any existing imbalances in rewards between teaching and research so that these functions can be more truly mutually supportive. Special awards for meritorious teaching would help to raise the esteem, both within the academic community and outside it, of persons who are already outstanding teachers and to motivate new faculty to cultivate their teaching abilities and talents. Outstanding teachers should be made readily available throughout the university system to bring them wider recognition, to bring a wider range of students into their contact, and to bring other university system faculty members, who might benefit from observing their expertise, into their orbit. Likewise outstanding visiting scholars and teachers would supplement instruction and share with university system faculty their knowledge about their discipline and their expertise as teachers.

The establishment of endowed chairs would provide a significant financial incentive to faculty who aspire to be outstanding teachers. There are no truly outstanding universities that do not have endowed chairs to attract and keep superior faculty. This Commission strongly endorses legislation that would make the State of Florida a partner with the private sector in raising funds to endow chairs in each of the universities in fields important to the state and to the academic world at large. With an array of endowed chairs, the State University System will be better able to attract faculty who will perform at the high level expected in a high-quality university system.

Students

Admissions

Action to achieve a general upgrading of the quality of students in the State University System is consistent with the goal to improve the quality of the System. Criteria for admission should continue to be evaluated by the State University System to ensure that they are based upon indicators that predict reasonable success in the program and, where applicable, in the career or occupational area for which preparation is being sought. The Board of Regents should ensure that these indicators are without bias based on race, sex, ethnic background, age, or physical handicap. The indicators should include not only past academic achievement and test scores but also judgments about motivation and other pertinent characteristics gained through such means as interviews or personal recommendations.

In particular, this Commission recommends that the State University System set admissions criteria so that

(1) those admitted at the upper-division undergraduate and graduate levels exhibit mastery of all basic skills;
(2) those admitted at the lower-division undergraduate level exhibit mastery of most of the basic skills and be able to attain mastery of their deficient skills with a minimum of remedial instruction. Such instruction shall be given within the State University System and should be funded as instruction appropriately undertaken at the university level but not for university credit;
(3) if there are more applicants to a specific program than there are available spaces, the university may adopt higher standards than the minimum.

However, in view of the lack of full predictive capability of admission criteria, it is preferable to admit marginally qualified students, subject to retention standards, rather than to prohibit such candidates from entering a program.

This Commisson is very concerned about the quality of students admitted to Florida's public universities. Although the fair evaluation of students is strongly supported, this Commission does not favor the extension of access at the expense of quality.

Much attention has been given by the news media to the fact that many students across the nation are being admitted to institutions of higher education without basic skills in reading, writing, and mathematics. Many states—New York, New Jersey,

and California, to name a few—have taken steps to tighten admissions requirements in order to raise the standards in public institutions.

Florida's public institutions have not escaped this national phenomenon of diminished skills. The Florida State Board of Education has initiated the Florida Functional Literacy Test to strengthen standards in the public high schools. At the university level, there is a concern for the reading and writing skills of students in the state's public universities. Even at the University of Florida, where admissions standards have tended to be the highest, there has been an increased emphasis on expository writing in reaction to a general decline in the abilities of entering students.

This Commission believes that students should have command of the basic skills in reading, writing, and mathematics before they enter the State University System. Remedial programs are financially costly and result in the questionable diversion of university resources. For students that need short-term help at the lower-division undergraduate level, some help should be provided. Primarily, however, remedial programs should be concentrated at the high school and community college levels. This dual offering will ensure the availability of remedial programs at the educational level appropriate to the learner's ability to profit from training.

Outstanding students

Increasing the number of scholastically gifted students has a positive effect on a university's ability to create an environment of excellence. This Commission recommends that the universities within the State University System enlarge their efforts to increase the number of high school graduates with high academic ability who enroll in the State University System. In order to recruit outstanding students, methods of permitting early admission, of expanding proficiency testing, and, most importantly, of awarding scholarships based on merit should be given high priority.

This Commission has viewed with alarm the phenomenon that has been called the "brain-drain" of gifted students out of Florida: The more academically successful high school students have an increased tendency to enroll in out-of-state colleges and universities. Analysis based on the results of the Florida Twelfth-Grade Testing Program showed that from 1970 through 1974 forty percent of the students scoring in the ninety-fifth percentile and above chose to attend an out-of-state institution.

Students who become National Merit Scholars are an identifiable segment of Florida's highly gifted high school students. The State University System traditionally enrolls less than one-half of these students with most of the remainder going to out-of-state institutions. In fact, the number of National Merit Scholars staying in Florida has been decreasing. Despite this overall decrease, however, the enrollment of Merit Scholars at the University of Florida increased from 152 in 1976–77 to 164 in 1977–78.

Florida State University's new program to recruit top high school students focuses on the semifinalists in the National Merit Scholarship competition; and it is being enlarged to include students involved with Boys' State, Girls' State, National Achievement Program, and other identifiable groups of gifted students. This program, instituted in the fall of 1977, features active participation of alumni, faculty, and National Merit Scholars who are already attending FSU. As a result of these efforts, FSU expects the number of freshmen National Merit Scholars enrolling in fall, 1978, to increase fivefold over the number who enrolled in fall, 1977.

Two other effective methods of recruiting larger numbers of high school students of high quality are advanced standing and early admissions programs. The Faculty Scholars Program at Florida Atlantic University has been operating for ten years. Students chosen enter it as upper-division undergraduates following their high school graduation. Thus students who enter the program are able to complete their baccalaureate degree requirements in three years as opposed to the traditional four. Students who have completed this program have collectively saved a million dollars over the past ten years. Florida International University and the University of North Florida have recently introduced similar programs.

Some of the state's universities permit talented students to enroll and begin taking university level courses before completing high school ("early admission"). These programs have encouraged gifted students to remain in Florida and continue their higher education in the State University System.

As a group, highly gifted students have taken full advantage of means such as the College Level Examination Program to reduce the number of classroom credit hours they need to complete degree requirements. Continued expansion of these programs will enable an even larger percentage of academically gifted students to use their time and the university's resources to the fullest advantage.

At present privately donated monies are the only source of funds used to reward students for their academic achievements. The amount expended in the State University System for this purpose in 1977–78 was very small in comparison with the amount provided to students on the basis of financial need. In their solicitation of private funds, the universities should make additional efforts to obtain money for merit scholarships.

Criteria for learning assessment

Assessing the results of a particular course of study provides a means for determining if identified learning goals have been met, for evaluating student performance, and for examining program effectiveness. This Commission recommends that the State University System increase emphasis on research on learning and teaching effectiveness and disseminate the results thereof throughout the System.

This Commission is impressed with efforts being made in the universities, community colleges, and public schools to identify more precisely the knowledge to be imparted to students and competencies to be developed in them through instructional programs. When it can be demonstrated both to the learner and the society that the knowledge and competence have, in fact, been achieved, the credibility of the educational process is strengthened. This assessment is the key to institutional accountability to learner and to society.

The functional literacy testing program has stimulated statewide interest and has prompted dialog between the schools and the taxpayers. Similar concerns are being voiced at higher levels in the educational system. Methods of assessing the attainment of minimum knowledge and competencies appropriate to a college-level education are being investigated. Methods of teaching, theories of learning, and ways of organizing curricula are areas that must be explored to increase the effectiveness of instruction in the State University System.

The State University System and the community colleges have been cooperating during the past three years in the Competency-Based Articulation Project, which has brought together faculty from community colleges and universities to attempt to identify and assess the competencies that should be expected in students who have completed general education courses.

At the same time, however, it should be noted that a college education is far more than an accumulation of a series of discrete facts and isolated skills. Four years of university study should develop men and women who can analyze issues and problems and synthesize solutions using the knowledge and skills they have acquired. Competency testing will reveal if students have the minimal requisites for intelligent decision making but results of such an examination do not constitute the hallmark of a college education.

Statewide access to instruction

In order to provide accessibility for place-bound students to as many programs as possible, programs may be duplicated in different areas of the State when such duplication does not result in reduction of quality. Programs that require large investments in specialized equipment and facilities or a large number of specialized faculty or both for high quality to be maintained should not be offered at each university. Some highly specialized programs should be offered only at one location. Other means should be found to provide access for place-bound students to those specialized programs.

Florida established nine universities to provide geographically convenient access to university training. Students who are place-bound, however, have access only to programs offered by a university within commuting distance. Therefore, to provide these students with increased opportunities to pursue careers of their choice, duplication of degree programs should be permitted unless such duplication requires significantly large additional resources, leading to a reduction of quality elsewhere.

Although duplication is generally desirable to increase the place-bound student's access to programs, some specialized programs—because of cost, demand, or quality considerations—should not be offered at more than one or two locations. In those instances, alternative means should be used to provide access. These alternatives may include nontraditional delivery mechanisms such as external degree programs, cooperative degree programs, or off-campus programs provided by a university through the use of technology or more traditional means.

Expansion of the State University System by the establishment of new universities, by developing new branches and centers, and by duplicating programs, has met the public's demand for geographically convenient access. Providing such

access, however, is not the only major public concern of higher education in Florida. Providing high-quality programs at reasonable cost levels is the major consideration for public education in Florida in the coming decade. Therefore, while permitting program duplication to expand access, the Board of Regents should evaluate the anticipated quality and cost impact of each duplicate program proposed.

Branch campuses and centers

Another manner of providing instructional access is to locate classrooms away from the main campuses more conveniently to the students. The State University System should continue to offer courses through branch campuses and centers, expanding programs according to student need consistent with the goal of maintenance of high quality. In recognition that expenses per off-campus student may exceed expenses per student on the main campus, universities should be provided additional funding as necessary to operate off-campus programs.

Under a variety of conditions students are not able to be full-time students on residential campuses. Obligations of family or employment may require that individuals stay within a particular area, and these so-called place-bound students find access to instruction only through commuting to a university setting. The locations of nine major campuses of the university system allow the majority of the State's population to attend a university, even persons who are place-bound.

A significant number of the State's citizens, however, cannot commute to a main campus. If students are place-bound, the most obvious way to provide them access to instruction is to locate classrooms conveniently to them. In this approach to access, instruction is more effective and efficient if a number of courses can be offered at the same location, and efficiency and effectiveness can increase as the number of courses offered increases and the location more nearly approximates a major university campus. At different levels of activity, the course locations away from the main campus may be recognized as centers or branch campuses.

Whenever courses are provided at more than one location the need to duplicate some facilities and administration requires additional expenditures. This Commission believes that those additional costs are justified up to some reasonable level by the additional access that they provide. Students should not be prevented from attending classes by accidents of geography if reasonable additional funding can maintain a center or branch operation.

Once the decision has been made to provide instruction through a branch or center and a university has been assigned responsibility for operating it, the university should not be required to divert funds from its other activities in order to cover the additional cost that the branch or center requires. The most desirable source of the incremental funds would be an additional appropriation from the State. The Legislature should recognize the costs associated with making instruction accessible to all parts of the State. In the event, however, that the Legislature does not add the necessary amount, all universities should share in the costs of off-campus instructional activity by the allocation of sufficient funds for branches and centers prior to distributing the State appropriation to the nine universities.

Alternatives for access

Alternative practices should serve potential students who have been denied access to specific programs because of the location of the course offerings, because the courses are offered at a time that conflicts with job or personal responsibilities, or because of the specialized nature of the course. In no instance, however, should the quality of these alternative offerings (in staff, facilities, supplies, and equipment) be less than the standard accepted for the university; nor should these alternative practices require the construction of new facilities. Possible alternatives include increased utilization of the following:

(1) university faculty teaching in facilities provided by industry, community colleges, or other educational institutions, which may be away from the faculty member's own immediate locality;

(2) prepackaged courses, by television or other instructional technology, not requiring face-to-face contact between faculty and students;

(3) cooperative programs among the universities within the System;

(4) contractual agreements with both proprietary and non-proprietary institutions, including public universities in other states, independent institutions, and community colleges;

(5) short courses and weekend courses with full use of existing facilities for the convenience of students;

(6) the External Degree Program and opportunities for earning academic credit for validated learning acquired outside the academic setting.

When access to instruction is not adequately provided through the usual operations of main or branch campuses or centers, the State University System must be particularly imaginative in responding to needs. A specific concern in these responses must be cost. To provide specific programs in specific geographic areas may not be financially feasible if demand is inadequate. Potential students may be located conveniently to course offerings, but they may nevertheless find it difficult or impossible to

enroll because of conflicts in schedules for work and courses. This Commission notes the validity of the educational needs of full-time employees and of others with inflexible schedules.

This Commission endorses the growing movement in higher education to find reliable, sound ways to validate and certify learning that may not have taken place in the traditional university or college classroom setting. Students are stimulated to enter and reenter formal programs of study when they can obtain course credit for knowledge and competence gained elsewhere. To grant credit for such knowledge and competence reduces for the student the time and the expense of completing a degree program by eliminating the need to take courses covering what the student has already learned. For the State, savings are achieved by not having to pay for delivering instructional programs in portions of students' programs that have already been mastered. Likewise, external degree programs and internal university assessment policies and procedures that encourage students to achieve learning objectives pertinent to degree programs more rapidly and in nontraditional ways should be augmented. As knowledge and expertise are gained in how to assess such learning soundly and how to certify it legitimately, such programs can be more easily expanded.

Adult learners

The Florida Legislature, by providing appropriate funding, should support a public policy that enables the State's adult learners to have the educational resources and services of the public universities accessible to them throughout their lifetime and that assures such access shall be made available without regard to race, age, or sex.

Providing life-long learners with opportunities for instruction is a relatively recent responsibility of institutions of higher education. Universities have traditionally committed the vast majority of their resources to preservice as opposed to in-service education. Now that pressures to expand accessibility for the traditional college student are subsiding, higher education has an opportunity to respond to other legitimate needs. This opportunity comes at a time when the rapid rate of changes in our complex technological society makes much preservice information obsolete in a relatively brief period. Thus universities should provide adequate opportunities for adult learners to maintain their professional knowledge and skills throughout their lifetimes; and study undertaken for reasons other than to gain a degree should be encouraged.

The Florida Legislature, by supporting this philosophy, could help assure that life-long learning opportunities become a priority service of Florida's public universities. All instructional services provided for traditional students should be provided for adult learners. The Legislature should clearly indicate its desire to see all barriers removed that prevent adults from obtaining the benefits of university services.

Career counseling

Universities should emphasize programs of career counseling for existing and prospective students. Such counseling should include information on career requirements, potential job satisfaction, and projections of the job market showing the prospects and uncertainties in such programs. Students' early development of career and life plans should be encouraged since such plans aid students in selection of the proper institution and curriculum to meet their needs.

The career decision is undoubtedly one of the most important decisions that students make. It affects their wage-earning capacity, their mobility within society, their professional contributions to community, state, and nation, and their level of personal satisfaction and happiness. Students should have access to as much information as possible that bears on their choice of career.

Students need to be made aware of conditions that may affect job satisfaction. For example, a student aspiring to be a physicist should know the likelihood of working in research and development and of finding a position in a desired location. Further, the student should know that the U. S. Department of Labor expects employment opportunities for physicists to be good through the 1980s but that competition for jobs requiring advanced degrees will be keen. Students contemplating other careers need similar information.

Business and industry should be especially qualified to share knowledge not only on job satisfaction but also concerning career requirements and manpower projections. The universities should encourage the State's commercial enterprises to participate in this process of providing career insights.

Students also need access to information concerning fields of study, career preparation requirements, and curricular offerings at each of the nine universities. Through career counseling programs, the universities can assist prospective students to match their career needs with the SUS institution that can provide the best preparation. Students already enrolled need information on courses available within the curriculum as well as curricular alternatives at other institutions. Accurate, up-to-date information should be reported to the student so that he or she can make knowledgeable decisions.

Programs and Process

Degree requirements

(1) In order to facilitate transfer within the State University System for degree-seeking students the Board of Regents should set equivalency requirements for each degree offered within the State University System.

(2) Requirements of residency at the degree-granting institution should be kept at a minimum and should be reduced for students transferring from another university within the State University System.

(3) While this Commission does not advocate a Board of Regents degree or a systemwide degree, it does believe that reciprocal agreements need to be made to assure that all credits earned in one university can be easily transferred to another.

This Commission is especially concerned that students have the freedom to move throughout the State University System to avail themselves of the diversity of faculty and programs found in the System as a whole if they find they need specific resources to meet program objectives. If arbitrary residency requirements represent barriers to the reciprocal acceptance of program credits from one SUS university to another, they should be identified and removed. This Commission proposes that the one-year residency requirements for degrees should be waived within the System when students can demonstrate that they have attained the knowledge, competency levels, and standards expected of students in the curriculum to which they may be transferring in the final stages of a degree program. If definitions of program and course objectives are not specific enough to permit evaluation of a student's knowledge and competency for the purposes of transfer, definitions should be clarified and assessment techniques should be refined.

Programs of national distinction

This Commission recommends that the State University System identify and appropriately fund programs in selected academic disciplines in order to develop programs of national distinction. It must be recognized that this may result in unequal distribution of funding both within and among the universities within the System.

This Commission recognizes that supplemental funding above that normally provided on the basis of enrollment is necessary to the development of true Centers of Excellence. The National Science Foundation's nationwide program to develop Centers of Excellence was predicated on this concept. Accordingly, in the late 1960s major grants were awarded to the University of Florida's School of Engineering and Florida State University's Department of Chemistry. Both of these programs have obtained national recognition.

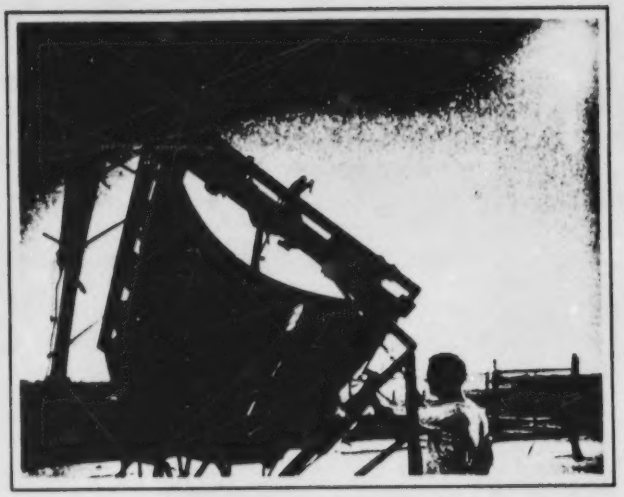
The 1978–79 Governor's Recommended Budget requests that $2 million be appropriated to strengthen specifically designated university programs. This Commission believes that this appropriation is a promising start for a program which should ultimately reach a level of approximately $30 million per year and should span most fields of inquiry.

The selection of areas for development should be based on a university's academic strengths and upon unique assets or needs of the local community. These criteria for the selection of programs to receive special emphasis will result in the most cost-effective allocation of the supplemental funding. It will also result, however, in unequal distribution of supplemental funds to member institutions.

Research

Research is an inseparable part of an academic environment in higher education. The scholarly interplay between teaching and research expands knowledge and enriches instruction. Research also leads to practical solutions to community problems, to increased economic productivity, and to an improved physical environment. In many ways, the quality of research is indicative of the level of economic development and the quality of life in the State and the nation. This Commission recommends that research activity in the State University System, both basic and applied, be intensified and that the wealth of research conducted within the SUS be made accessible to business, industry, consumers, other educational institutions, and to the public at large.

Research is an intrinsic part of the mission of higher education. It is required for a faculty to maintain competency, to provide updated instruction, and to create an apprenticeship, learning



situation for graduate students. It expands the base of knowledge from which teaching, applied research, and public service take place.

Directly related to the quality of basic and applied research undertaken by a university are the economic development and quality of life of its community and state. For example:

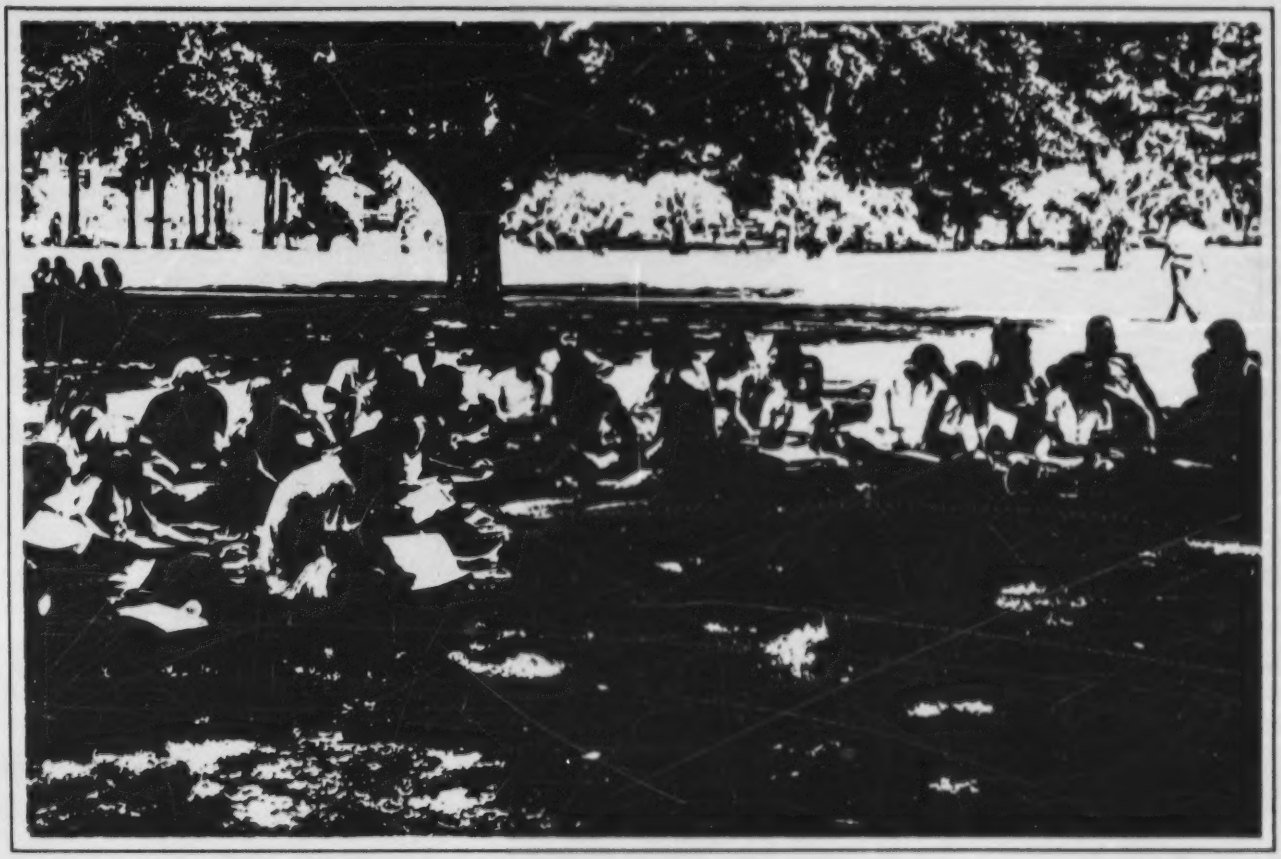
(1) North Carolina's research triangle (UNC, NC State, and Duke University) has revitalized the economic base of the State of North Carolina.

(2) Agricultural research and service programs at the University of Florida have undergirded and in fact made possible the development of Florida's agricultural economy—the fastest growing of any state in the country. Such growth has made Florida's agriculture the largest single contributor to the State's economy. The economic returns to the State of Florida from the agricultural research and educational programs of the University of Florida's Institute of Food and Agricultural Science alone are several times greater each year than the amount the State spends on the entire State University System annually.

(3) The federal government depends on universities and colleges for research leadership. During fiscal year 1977 the federal government estimated that thirty-two percent of its research and development contracts and grants were awarded to universities and colleges throughout the nation, directly augmenting their local economies.

(4) Clean industry and research units would increasingly look to Florida and move here in search of scientific and technological developments generated by university expertise in various research programs.

The research environment generated by continuing and increasing emphasis on research is a primary reason the State University System can attract and hold highly competent faculty.



Academic program review

The State University System has initiated an academic program review process which has among its purposes the evaluation of program quality and the monitoring of programmatic goals and objectives, giving the opportunity for statewide planning. The Commission recommends that this statewide program review continue.

In the academic program review system, a limited number of disciplines are reviewed each year; all related programs within the State University System are evaluated at the same time. The review of any single discipline is conducted by a team of consultants from outside of Florida. The consulting team's efforts are coordinated by staff of the Board of Regents. The team's evaluation relies heavily on data and perceptions provided by the universities.

In March, 1976, a cycle of program reviews was begun which should cover all academic offerings once it is completed. The criteria accepted were based upon earlier procedures for the control and evaluation of academic programs. The review teams are being instructed to provide recommendations on program quality, program priorities, career implications, program administration and management, and the program's relationship to other programs.

Each university has undergone program evaluations by appropriate national, regional, or professional organizations, and it is not the intent of the program review process to duplicate those external studies. The uniqueness of the academic program review process derives from the simultaneous review of as many as nine universities, which allows comparison among the programs within the State that can lead to recommendations for relative emphasis, coordination, consolidation, or elimination.

An encompassing concern in the program review process is the need for very careful consideration to be given the functional relationships of research, teaching, and community service. A determination should be made concerning the optimal balance of these functions and whether a specific university has been able to achieve that optimal balance.

The Commission believes that these reviews can yield information essential to decision making by the Board of Regents. The results of the reviews should be used to strengthen the academic programs within the State University System, particularly to identify areas of special strength that can be given the support necessary to permit them to achieve national distinction.

Curricular reform

The periodic examination of a university curriculum is important to ensure that it is a relevant, coherent expression of a university's mission. This Commission recommends that the State University System pursue the review and revision of current curricula with renewed vigor, particularly at the undergraduate levels, and that it develop means to encourage curriculum research and development to improve the effectiveness of educational programs while reducing costs.

The growth of the universities, the expansion and proliferation of knowledge, and the changes in society during the past decade have exerted severe pressures upon the undergraduate curriculum, causing it to lose coherence and direction. This Commission is disturbed that the undergraduate curriculum in the State's universities may suffer from the same problems and shortcomings found elsewhere in the country. Recently the Carnegie Foundation for the Advancement of Teaching reported what many educators had already observed, that the undergraduate curriculum nationally, especially general education, has become a "disaster area." The report called for an end to neglect of the undergraduate curriculum and urged colleges and universities to develop new, convincing rationales for a general education to be taken by all students. Harvard University has just completed a thorough review of its undergraduate curriculum and concluded that it needs a complete overhaul, especially with respect to the need to redefine the goals and objectives of its general education program. This Commission believes that the time has come for the State University System to assess carefully the status of undergraduate education and to develop an agenda of steps to be taken to bring about appropriate reforms.

The educational reform being called for nationally and in Florida cannot be an afterthought; rather it should be accomplished by providing faculty leadership in the university system to evaluate the condition of undergraduate education on each campus and to make coherent recommendations internally and to the Board of Regents for implementing needed reforms. The study should perhaps be conducted in part on an interinstitutional basis so that expertise and findings can be readily shared and a systemwide focus can be brought to the problem. If need be, funds should be provided to bring outside consultants into the evaluation process. The objective of the study should be not only to find out the current status of undergraduate education but also to provide recommendations as to what must be done to clarify academic program goals and objectives and restore relevance and integrity to the curriculum. Academic administrators must establish mechanisms to assure that the curricular offerings, especially those relating to general education, be interrelated in such a way that programmatic coherence is maintained and needless course proliferation is avoided.

While a study should have significant impact, this Commission believes that faculty development funds should be used at least in part to provide faculty the resources needed to continually reexamine their curricular offerings and to develop new experimental programs of instruction. The educational enterprise, like business, should have resources for research and development of innovative ways to deliver education more effectively, efficiently, and without loss of quality. Funds need to be made available so that faculty can work individually and collectively to analyze and upgrade curricular offerings. Without such an investment in research and development on a continuing basis, curriculum becomes obsolete and quickly loses its relevance to individual and societal needs.

Supporting Resources

Libraries

This Commission recommends that the State University System continue its efforts to complete the $50 million library improvement program and the funding of other learning support services including instructional technology and scientific and technical equipment.

The Legislature is to be commended for its foresight in recognizing the importance of developing Florida's State University System libraries, a permanent state resource. A special appropriation of $10 million combined with the regular book appropriation of $4.7 million amounted in 1977–78 to a total appropriation of $14.7 million for the acquisition of library materials for university libraries. This special funding has helped to reduce deficiencies which arose in the last few years. Low budgets and spiraling inflation had reduced the buying power of Florida's libraries by more than forty percent since 1972–73. This special allocation has made possible a substantial beginning toward accomplishing the objectives of the Five-Year Library Development Plan submitted to the Legislature. The objectives of the Five-Year Plan are to reduce deficiencies in collections, strengthen existing collections, improve library services, and expand access to information.

In July, 1977, the nine State University System libraries contained approximately 5.1 million volumes, fewer volumes than a single noted midwest university library, the University of Illinois library. By June, 1978, the university system libraries, using this special allocation, will have increased holdings by about 525,000 volumes or eleven percent. According to the widely used Washington State Library Formula, the 5.1 million volumes held in the combined collections of the nine universities as of July, 1977, represented about 2.5 million volumes fewer than the minimum number needed to support the mix of academic programs found in the Florida university system, or about sixty percent of the minimum set by the Washington State Library Formula. Encouragingly, the state's university system libraries will be at about seventy-four percent of the minimum standard in June, 1978. Continuation of this $50-million library acquisition funding program will permit the State University System to reach approximately one hundred percent of this minimum standard by 1982.

According to most library experts and national library associations, university libraries must acquire new material at the rate of at least five percent of the holdings standard per year in order to stay current with normal academic program needs and publishing rates. Although the eleven percent increase in holdings in 1977–78 will be substantial, the systemwide collections will still merely equal in size the collection of the University of Illinois. The

largest single collection in the State University System, the University of Florida's, will increase to about 1.9 million volumes in June, 1978. That collection will then be only thirty-three percent as large as the University of Illinois library and forty percent as large as either the University of California—Berkeley library or the University of Michigan library. The University of California—Berkeley and UCLA together have 8.4 million volumes, and Michigan and Michigan State universities together have approximately 7 million volumes.

With increased funding and flexibility in the use of funds, Florida's university system libraries will be able not only to reduce deficits but also to complete a common computerized catalog, which will make collections more readily available to users throughout the state, improve library services, and avoid unnecessary duplications in acquisitions.

While increasing the size of collections is extremely important in developing quality libraries, of equal importance is the improvement of library services, making user access to collections easy and rapid.

Role and scope of the central office

This Commission endorses the role assigned to the central office of the Board of Regents, that of assisting the Regents in the development of policy and monitoring the compliance with established policy. The central office should directly manage only the activities that cannot be assigned to one or more universities or conducted more efficiently or effectively in a decentralized mode. Furthermore, this Commission recommends that State agencies such as the Department of Administration and the Department of General Services should not become involved in the direct management of the universities of the State University System.

The central office should facilitate the universities' primary responsibilities of instruction, research, and public service. The central office should not be involved in the direct management of the universities. The central office functions should be limited to the coordination of activities of the universities and to the completion of studies necessary to support the Board's governing responsibilities. Other activities should be performed at one or more of the universities for and on behalf of the university system unless it can be demonstrated that they can be performed more efficiently and effectively at the central office. This position reflects the management philosophy set forth in the Role and Scope Guidelines as well as the BOR Rule on Institutes and Centers.

This Commission recommends that support activities and services undergo continual evaluation by the Board of Regents to determine the level at which they should be performed. This Commission

notes that certain activities can be more effectively and economically administered by the central office. Wherever possible, support services should be administered by the development of standard operating practices or procedures and should not be staffed at the central office beyond the extent necessary to assure a cost benefit or to fulfill a responsibility assigned to the Board of Regents by statute.

Scientific and technical equipment

Learning to use modern scientific and technical equipment is an essential part of university level education in most fields. Also, research cannot be conducted efficiently or effectively without well-equipped laboratories. The State University System does not now have an effective method of monitoring and meeting equipment needs. This Commission recommends that special efforts be made to equip properly both teaching and research laboratories and that procedures be established to ensure that they remain adequately equipped.

Standard state practice provides equipment replacement funds at the rate of ten percent of equipment inventory. This rate is applied without further clarification of the adequacy of such a replacement rate or without an evaluation of the extent to which program needs are being met. In order to accommodate unanticipated budget reductions in recent years, universities were forced to reduce the equipment replacement fund allocations. Consequently, replacement of equipment dropped substantially below the ten percent replacement rate, and the deficit has not been made up in subsequent years. The result is many inadequately equipped laboratories, especially in the scientific and technical fields.

This Commission recognizes that major pieces of scientific equipment may be costly; but a quality education must teach students to use current equipment. In addition, students and faculty together using up-to-date equipment are more efficient and productive in their scholarly and research endeavors. This Commission believes that simple replacement formulas are inadequate for establishing priorities or determining appropriate allocations of equipment funds. Therefore, the Board of Regents, in cooperation with the State Budget Director and the Legislature, should establish methods for reviewing the needs of all major items of scientific and technical equipment and establish a firm commitment to meet documented needs.

Supporting personnel

This Commission recommends that more efficient operation be sought through the use of supporting staff to provide the services that they can themselves do well, thus enabling faculty and professional staff to concentrate on their assigned tasks.

Without the adequate support of secretaries, technicians, and paraprofessionals, it has developed that faculty, administrators, and other professional staff must spend time at tasks for which they are overqualified and for which they were not hired. Faculty should not be required, for example, to typewrite their examination questions. When support is inadequate, two kinds of deterioration occur. First, morale of the professionals decreases as they find themselves performing tasks to which they are not suited; they see the lack of support as evidence of a lack of understanding by the people of the state of their potential contribution. Second, the time given to nonprofessional chores is taken from professional duties, resulting in a decrease in professional productivity.

When all university staff are performing tasks at levels to which they are suited, the morale of the staff is improved and the state is getting the most from each dollar expended.

Graduate assistantships

Recognizing the benefit to the student and to the university, this Commission recommends that the number and value of assistantships for graduate students be increased.

The assignment of graduate students to teaching and research tasks is educational to the student. In performing such tasks, the student reinforces knowledge by its direct application and practices under supervision roles that he or she may later assume independently. The services that graduate assistants provide are needed by the university, and in return for them the university should expect to provide fair compensation. An adequate supply of assistantships, at a pay rate high enough to attract highly qualified students, will allow the proper assignment of tasks within the university.

A comparison of one university system program is indicative of the State University System standing nationally. Data from the 1976 Directory of the National Association of Schools of Public Affairs and Administration were contrasted with data from Florida State University's public administration program. The number of students holding financial aid as a percentage of the number of full-time equivalent students (full-time students plus one-third the number of part-time students) was found to be as follows:

University of Southern California	20%
University of Colorado	24
University of Georgia	23
Syracuse University—Maxwell School	17
Ohio State University	42
Florida State University (1976–77 data)	15

At least in this case, believed to be typical of the university system, Florida State University is not able to provide as many assistantships as would be expected from national comparisons. It is felt that increasing the number of assistantships could make a positive contribution to improving the quality of education in the state's university system.

Contact, Cooperation, and Coordination

Coordination of educational levels

The public schools, the vocational education centers, the community colleges, and the public universities comprise the State Public Education System. In order to increase accessibility to educational services, to increase the efficiency with which those services are provided, and to provide high-quality educational experiences to Floridians, this Commission recommends that the State University System develop effective mechanisms for working with the Division of Public Schools, the Division of Vocational Education, and the Division of Community Colleges so that a unified approach to education can be pursued.

Under the general direction of the Board of Education, each level of public education contributes uniquely to the overall educational program of the state. Each institution has specific goals and purposes. But since students move from one level to another, coordination and cooperation among all levels and segments of education are needed to facilitate the students' successful advancement, to provide students with maximum educational opportunities, to make the most efficient use of public resources, and to articulate programs among the several institutions effectively.

To the members of this Commission it appears that there are differences of opinion among educators at the various levels about the academic standards necessary for graduation from one level and about the predictability of success in programs at the next higher level. There are continuing problems of coordination and cooperation which must be addressed. Among the most vexing to the Commission are these:

(1) the unclear delineation of responsibilities for the development of knowledge, skills, and competencies needed at each stage of the student's educational development;
(2) the lack of clearly defined performance standards for students at each level of education;

(3) the lack of articulation of academic programs from institution to institution, which often results in program redundancy for students and a waste of scarce resources;
(4) the lack of well-defined roles and responsibilities for the universities in the preparation of teachers for all levels of education; and
(5) a lack of more effective ways to pool and exchange educational resources.

The Commission is aware that the Articulation Agreement between the State University System and the Division of Community Colleges provides for automatic transfer into the upper division somewhere in the State University System for students who receive the A.A. degree from a community college. The agreement states that the university the student will attend is to be determined by student preference, by the program of major concentration, and by space available within the specific institution. Hence, even though a student has earned the A.A. degree he or she may be rejected from a particular university program if he or she has not met the program requirements. These prerequisites, however, must be published in advance and must not differ from those that apply to students who take their lower-division work at the university. Rejection of the student is thus based upon identified standards of which he or she is aware.

While some may recommend the creation of monolithic structures to overcome the problems identified, the Commission believes that the solutions to them can be achieved through closer interdivisional cooperation and coordination and through a parallel development of close working relationships among the local institutions of every level. More interaction between community college and university faculties will assure that students transferring with A.A. degrees are prepared for upper-level work. Agreements on the performance standards and knowledge competencies required in each discipline at the completion of the first two years of college will result in a smooth transition of students from the community college system to the university system. Furthermore, such cooperation and coordination can result in a reduction of content overlap within discipline programs at each level.

The Commission also notes that the community colleges and, to a lesser degree, the universities find it necessary to provide high school level instruction in some subjects to high school graduates if they are to perform satisfactorily in lower-division college courses. The Commission believes that coordination between the Division of Community Colleges, the Division of Public Schools, and the State University System must be expanded so that standards for student performance are identified at each level and assessed properly. In this way, the institutional responsibility for providing instruction to students at each level will be clearly identified and instruction will be delivered with a minimum of duplicated efforts.

Independent and public institutions of higher education

The people of Florida will be more effectively served if needless duplication in educational programs throughout the State is eliminated. This Commission recommends that the existing resources among the State University System, the independent colleges, the business sector, and the public education system be developed in a coordinated manner, using the Postsecondary Education Commission whenever appropriate, to enhance the State's total educational effort. Florida's independent colleges and universities already provide some specialized programs including curricula in law, medicine, and engineering. Whenever the need for programs within the State is indicated and such programs of quality and comparable cost are found to be already existing within independent colleges and universities, this Commission recommends the System not initiate any new programs but contract with those schools for the needed programs.

Nationally, there are contradictory pressures on all educational institutions to become more efficient yet to respond to increasingly diverse educational needs. Tightening economic conditions and the need to increase the geographical accessibility of educational opportunity have placed a severe strain on the limited funds available. Cooperative sharing of human and physical educational resources can be a less expensive way to meet many educational needs.

Such pressures exist in Florida and affect independent colleges and the public educational system alike. The need for more coordination is apparent. Duplication of resources is wasteful, leads to unnecessary competition between institutions, and increases tension and misunderstanding. Coordination can improve the breadth, depth, and quality of Florida's educational programs and institutions. Cooperative efforts to reduce duplication will result in a better statewide educational program. The State University System should take the initiative to improve interinstitutional cooperation in both the state and the southeastern U. S. by contracting with private institutions for services. The Commission believes that it would be in the public interest to provide state funds to existing independent colleges under the provisions of current state law rather than to establish competing programs in public institutions in the same geographic area. The Commission believes that the contract mechanism allows sufficient protection of the public interest by placing appropriate controls over the expenditure of public

funds. At the same time it provides public access to quality programs at lower costs than those associated with establishing new, competing programs.

The Postsecondary Education Commission was established as a 1202 Commission under the Education Amendments of 1972, Section 1202, to foster collaborative relationships among all postsecondary educational institutions. The 1202 Commission has been charged with the responsibility of developing a comprehensive planning process for statewide postsecondary education. Each sector, the independent colleges, the public universities, and business, has representation on the 1202 Commission, which serves in an advisory capacity to the Commission of Education and the State Board of Education. Therefore, the 1202 Commission, or a very similar group, would be an excellent forum to initiate cooperative and coordinative efforts.

Interdependence of public schools and universities

The public school system and the State University System have a strong interdependence in the cycle of education. This Commission recommends that the State University System and the public school system continue their collaborative efforts to maintain and improve the quality of instruction in the public schools by reassessing and developing more effective teaching methods, by testing teacher competencies, and by increasing the scope and depth of in-service training programs through teacher education centers.

Although only a third of Florida's public school instructors come from the State University System, the SUS is a significant source of talent for the teaching staffs in the state. In fact, eighty-four percent of the graduates of Florida's colleges and universities employed by the public school system in 1976–77 came from the State University System. The impact, however, of the State University System is made not only by the new talent it supplies but also by the in-service training programs it conducts for the public school system and others through teacher education centers. Last year 39,154 public school faculty and staff attended over 1,500 programs given by State University System faculty in teacher education centers. The State University System is the supplier of a major portion of the State's teacher education; because of this, changes made in the State University System echo throughout our public educational system.

The results of studies of methodologies of teaching and of teacher competencies made available by the State University System can be used to improve the quality of instruction in both the public education system and the independent colleges and proprietary schools. Means of assessing teacher competencies can be useful to teachers in evaluating their professional development needs; to schools, colleges, and universities in evaluating teacher performance; and to students enrolled in colleges of education in estimating their potential success as teachers. The instructional, research, and public service resources of the State University System can have a profound impact on the quality of education at all levels that is provided for the people of Florida.

State's development through the universities

Experience in Florida and throughout the nation has shown conclusively that institutions of higher education can have a significant impact on improving economic conditions. This Commission recommends that the State University System continue to contribute to the economic development of the state by making the instructional and research capabilities of the System accessible to businesses and industries already operating within the State and to others considering expansion or relocation to Florida.

From their beginnings, the basic mission of public universities of Florida has included providing service to the varied and expanding needs of business and industry. The ability of the universities to provide expert assistance, which has helped stimulate economic development, has been well demonstrated by the research work and extension services of the Institute for Food and Agricultural Sciences. This assistance has fostered the development of the giant agribusiness sector of Florida's economy. The entire

university system should emphasize the concept of accessibility not only to applied research but also to instruction, especially that needed to develop the technical and professional manpower of the state.

The State University System should also expand the program designed to investigate and help solve important State problems, the Service Through the Application of Research (STAR) program. The STAR program administered by the staff of the Regents in close coordination with the universities has funded 187 applied research projects at a cost totalling $5 million since 1973. Additionally, the research institutes and centers of the State University System, some of them systemwide, contribute to the overall economic development effort. These avenues for advancing the state's economic development should receive more attention.

At present there is no vehicle for coordinating the many and varied university resources that can assist business and industry. Approximately 6,000 research projects are being conducted throughout the university system on any given day. The central office of the Board of Regents receives annual reports from the universities regarding these research activities, and the reports are filed with the Department of Administration, the members of the State Cabinet, and the Legislature. However, these do not permit the dynamic retrieval of needed information. An automated, electronically sorted index of faculty expertise and ongoing research would supply current information to business and industry. Such a system, once built, could be expanded to include research activities of local governments and the private sector. Thus a complete statewide index of research capabilities could be developed. As a major aid to business and industry, such an index would contribute directly to economic development within the state.

Consolidation

This Commission believes that the potential exists to expand the availability of postsecondary services, to increase the efficiency with which these services are provided, and to improve the quality of postsecondary experiences provided to Floridians. Accordingly, the Commission recommends that the Legislature authorize and fund a study by a body independent of both the Office of the Commissioner of Education and the Board of Regents to investigate the practicability of consolidation within the public postsecondary institutions in Florida.

In Florida, public postsecondary education is provided primarily through the twenty-eight community colleges and the nine universities. If the system of postsecondary education were to be reconstructed within the State, this Commission believes it would result in a different organizational structure than now exists. The Commission questions the wisdom of maintaining the status quo rather than identifying the modifications that could and should be made in the organizational structure. This Commission believes that efficiencies can be achieved at no increment in cost (and possibly with a savings), which will result in improved services to the state or to individual persons and at the same time maintain or increase accessibility. The Commission recommends, therefore, that an independent body review the postsecondary structure to identify areas of possible consolidation within the State University System, within the System of Community Colleges, and between the System of Community Colleges and the State University System.

Mutual benefits for alumni and the universities

Close communication between the System and university alumni results in a relationship with mutual benefits. The Commission recommends that the State University System develop a unified system for maintaining contact with alumni in order to serve this constituency better, to evaluate employment as a measure of success, and to gain information useful in assessing the System's performance in meeting its goals.

The State University System has over 250,000 living graduates, most of whom have remained in the state. Because of their past association with the System, they are a particularly important group of individuals with which to maintain a dialog.

This dialog could do much to enhance the quality of the education offered by the System. The solicitation of alumni views in regard to the education they have received will give the State University System additional information about the results of the educational process. These views, along with other assessment, would enable the System to make necessary adjustments to fulfill its objectives.

Maintaining a quality educational system will result in several benefits to alumni. First, it will give continuing reinforcement to the value of the education already received by the graduates of the System. Second, studies have shown the probability is high that these individuals will return to the System for additional education. The quality of the offerings that address life-long learning will be of direct concern to this segment of the population. In the third place, the continuation of an effective, meaningful education will be of importance to the children of alumni and future generations. Research has shown that the likelihood of a child continuing in higher education is greater if his or her parents have attended college.

Other services offered by the university system

such as job placement files and cultural activities can also be made more available and more responsive to the needs of alumni.

This Commission recognizes that an alumni group actively involved with the member institutions is a source of strong support for the state's university system. Active alumni are not only leaders in creating an atmosphere of public support; they also invest their energies and financial resources to bring about the success of the universities' endeavors. A group of dedicated alumni could be one of the greatest assets of the SUS in enabling the System to pursue its goals. This Commission believes that all efforts possible should be made to develop and maintain a healthy relationship with the alumni of the System.

Use of faculty expertise and university facilities

(1) **Mechanisms should continue to be developed so that Florida can take more advantage of the talents of professionals in the universities. Faculty expertise can enhance community life, economic development, and business activities. Barriers to the linkage of faculty services with community needs should be identified and eliminated as long as such faculty activities do not interfere with other teaching and research assignments.**

(2) **The universities should make libraries, other informational resources, and appropriate physical facilities more readily available for use by governmental agencies, business, industry, and the community at large, with due regard to priorities and costs for use. In some instances, fees may be charged the users to cover the costs.**

Access to the educational and research facilities of the state's universities needs to be expanded. The facilities of the universities cannot be considered a "cloister" removed from society. While restrictions to such access may be legitimate in recognition of limited resources and facilities, they are often historical or organizational in origin.

Universities control a number of resources that can be directed toward service to the community in an enlightened way. In most communities where there are universities, these institutions house the most comprehensive local array of informational resources.

By making these resources available, the university could greatly multiply its service roles. Such extensions of service should not encroach on the primary mission of these resources, nor should universities encounter excessive additional operating expenses. Policies should be developed clarifying priorities for the various user groups and appropriate financial and legal responsibilities for expanded access to such service.

University response to communities

Each university should provide information within its local service area—through libraries, the news media, or other channels—on the opportunities available to potential students and on the university's willingness to respond to community needs for university-level courses, research, and public service. Requests for programs, courses, or other assistance initiated by the community should be given high priority if such requests are appropriate to the university level.

Each state university should strive to maintain useful contact with the people it serves. Each state university should play an active role in its relationship with the community by reaching out more than halfway to involve the public. This Commission recommends that the several universities take the initiative to learn the needs of their communities and to share with them information about the services offered by the universities.

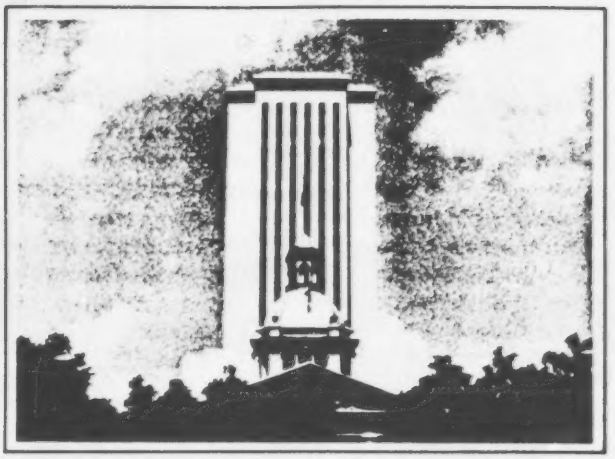
Faculty engaged in educational outreach

The universities should support educational outreach (education provided away from primary campuses or directed toward nontraditional students) by employing the necessary faculty. Faculty active in outreach should be rewarded equally with faculty who engage in other functions. Other motivations of the reward structure should be adjusted to assure that the status of faculty working in educational outreach is equal to that of other faculty.

Ultimately, delivery of educational outreach to the people of Florida rests with the faculty of its postsecondary institutions. Unfortunately, faculty are not often recruited with such responsibilities in mind; nor are the faculty who are recruited always informed that such activities are appropriate and expected of them. Among the criteria for faculty selection should be the faculty member's suitability for work in educational outreach programs and willingness to participate in them.

Leaders of business and industry have issued strong pleas for universities to give more equitable recognition to outreach activities when considering faculty for merit, promotion, and tenure. These faculty activities should be given higher priority by appropriate recognition of the persons who perform them.

Funding the State University System



Tax support

By any of several different measures, the State of Florida now ranks among the bottom ten states nationally in support of higher education. This Commission recommends that the State of Florida view tax support of higher education as a very high-priority investment in the future of the State and act over the next several years to provide above-average tax support for the State University System so that Florida may be included among the top twenty states in the nation by 1990.

The *Chronicle of Higher Education* for 25 October 1976 published data showing appropriations per capita and appropriations per $1,000 of personal income for each of the fifty states, which were summarized in the introduction to this report. Those data attest Florida's low rank in support of higher education. This Commission believes that it would be desirable for the State of Florida to invest in higher education at least to the level of such southern states as North Carolina and Alabama, which are attracting significant new industry and substantially improving the quality of life for their citizens. We note that no other southern state ranks lower than Florida in either appropriations per capita or appropriations per $1,000 of personal income.

This Commission acknowledges that a high level of tax support alone will not guarantee a top quality university system or the benefits that might flow from such a system. We do recognize, however, that a top quality system cannot be developed without such support. For Florida to have been twentieth in higher education appropriations per capita in 1976–77 would have required an additional appropriation of $180 million. To have been ranked twentieth in higher education appropriations per $1,000 of personal income would have required an additional $175 million. This Commission believes that such a level of support would not have been burdensome to Floridians and would have yielded benefits substantially in excess of the costs incurred.

Private funding

This Commission recognizes that student tuition and State tax revenues can provide a base for excellent programs in our public universities. However, the financial margin necessary to achieve national distinction must come from private gifts, grants, and contracts for sponsored programs. This Commission recommends that the State University System implement practices that encourage individuals, corporations, foundations, and government agencies to increase support to the State Universities.

Many public universities have a tradition of successful fund raising. The University of Michigan received $25.9 million in voluntary support during 1975–76. Texas A & M raised $14.4 million that year. The University of Florida, through an aggressive development program, increased private support from $2.6 million in 1972–73 to $7.8 million in 1975–76 and $12 million in 1977 (1975–76 data from *Voluntary Support for Public Higher Education, 1975–76*, published by Brakely, John Price Jones, Inc.).

The availability of unrestricted funds through private support enables a university to respond quickly to changing needs. An effective program of private support can be achieved by developing and maintaining a life-long relationship between the university and its graduates. The effects of support for universities by individual donors is often multiplied through industry's matching of employee contributions. This Commission believes that the development of a program for matching unrestricted gifts by the state would enable the State University System more successfully to attract potential private support from both individuals and corporations. To guarantee potential donors that their contributions to public universities will not impact state funding, a program should be implemented mandating that all gifts to the universities be received only by the associated university foundations. Furthermore, the Board of Directors of each foundation shall retain full control over the funds received on behalf of its associated university. The foundation boards should expend these funds in accordance with university needs and in concurrence with the general guidelines as provided by the Board of Regents and as reflected in the existing charter of each foundation. These separately incorporated foundations should provide for an annual review by an independent, private auditor and, thus, continue to be operated outside the control of the State government.

Finally, this Commission believes that some changes in administrative practices and procedures might provide greater incentives for the faculty to seek contract and grant support for specific sponsored activities. Many universities receive more money in contracts and grants for sponsored research than do any of Florida's public universities. Believing that a vigorous program of sponsored research substantially improves the quality of instruction, especially at the advanced graduate level, this Commission encourages the Board of Regents to remove any barriers to effective competition for such funding.

Individual role and scope

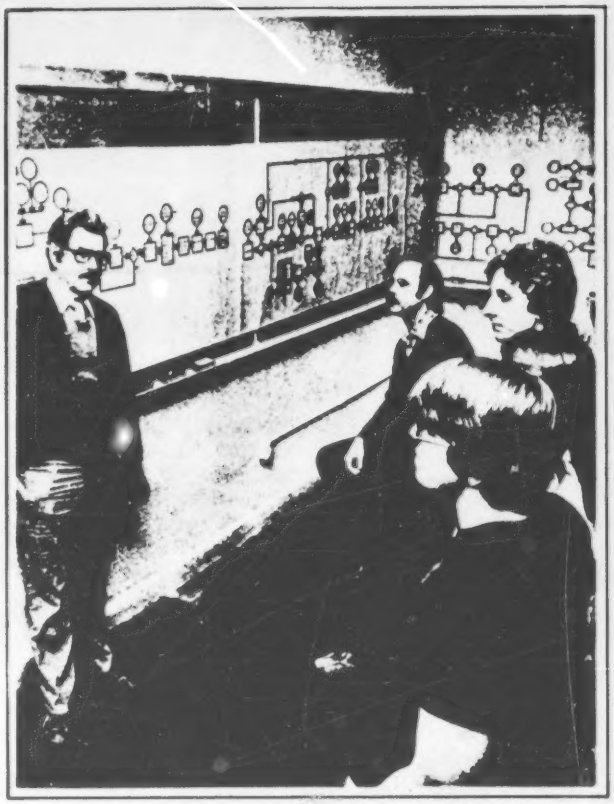
Delineation of the role and scope for the entire State University System and for each institution within the System will aid in the management process. The Commission recommends that the completed role and scope statements, which are now being developed, be used to direct current operations, allocate funds, and evaluate performance.

A series of policy guidelines describing the functions of the State University System as a whole has been completed, incorporating views of this Commission. This document, *Systemwide Role and Scope Policy Guidelines, 1978*, has been adopted by the Board of Regents. It is now necessary to complete statements for each of the universities, assessing the part that each is now playing and that each should undertake. In an educational institution, which may adopt a variety of goals, it is especially important to have some agreement on the purpose of the institution.

The role and scope statements should facilitate accountability as they clarify what should be accomplished by each university. The framework drawn by the statements may also aid in determining what funding is needed for the functions of the university and may guide the magnitude of that funding. With an accepted statement of role and scope, an institution will be better able to measure its performance against expectations and manage its operations to achieve its goals.

Budget process

To fulfill the functions of planning for the future, directing current operating activities, and evaluating performance, the State University System needs an effective financial management system. This Commission recommends that the State University System seek the support of the Legislature and the Florida Department of Administration to develop an improved budgeting process, which should have the following characteristics:



(1) a realistic multiyear expenditure plan;
(2) a higher degree of delegated budget decision-making authority;
(3) less reliance on formulas;
(4) a closer linkage between fund allocations and program priorities as expressed in the role and scope statements of the several universities;
(5) greater incentives to reduce costs;
(6) greater flexibility to shift funds between category or type of expenditure within a given program or function;
(7) more useful data to compare the effectiveness of fund utilization at each university.

This Commission has reviewed the current budget-making procedures used by the State University System and by the state government. This Commission finds too much reliance on a staffing formula developed nearly twenty years ago as a guide for building budgets in an expanding university system. This Commission also finds that providing large amounts of very current budget data to the Legislature leaves little time or manpower to evaluate systematically the needs of individual universities. Current procedures focus entirely upon budgeting for the upcoming fiscal year. There appears to be no formalized long-range budgeting.

This Commission believes that, with the cooperation of the Legislature and the Division of Budget, the university system could develop a

realistic multiyear expenditure plan, which would substantially reduce the uncertainties that campus administrators now face with the annual budget cycle.

This Commission believes that multiyear planning will be greatly facilitated by the Legislature's adoption of a biennial budget cycle that will go into effect with the 1979–81 biennium.

This Commission notes that the State University System, like other state and federal government entities, does not have a strong incentive to save funds or adopt cost-saving procedures. For instance, equipment and supply purchase orders are frequently processed hurriedly at the end of the fiscal year in order to prevent budgeted funds from reverting to the State Treasury. This Commission believes that a sounder management practice would be to permit funds unexpended in one fiscal year to carry over automatically to the next fiscal year within appropriate guidelines. Such an automatic carryover would provide an incentive to reduce cost. This Commission believes there is little danger that such funds will be wasted or used ineffectively.

The State budgets divide available funds into four fund categories or expenditure categories: salaries, other personal services, operating expenses, and operating capital outlay. Transfer between categories of more than five percent of the smaller amount appropriated requires approval of the State Cabinet. While Cabinet approval might not be difficult to obtain, managers at lower echelons perceive that the difficulties of making such a transfer exceed the potential benefits. Consequently, the incentive to manage funds at lower echelons of management could be strengthened by a more flexible policy.

The most effective action that the SUS could take would be to establish realistic and effective budgetary procedures both to monitor funds being received and to provide the appropriate historical data for future funding requests. Accordingly, this Commission suggests these revisions to the budgetary and allocation processes:

(1) As a first step in the process, a university budget would be prepared using requests of the individual units and reflecting the goals and objectives for that institution that had been agreed upon earlier. The universities would prepare both a short-term (two-year) and a long-term (six-year) budget with the understanding that the short-term budget would become the basis for the operating budget and the long-term budget would be used as a guideline to be modified annually as necessary. This budget document would then be submitted to the State University System's central office.

(2) The SUS central office would review these requests with the respective universities making modification where necessary. A consolidated report would be prepared which would incorporate these techniques: the traditional full-time-equivalent enrollment funding formula for basic needs, a programmatic funding based on unique costs and priorities of the System, and limited lump-sum funding to provide flexibility to the institutions. The cost of operating the central office of the SUS would be added to this consolidated request. The total request would then be submitted to the Board of Regents.

(3) The Board of Regents would review the budget request, modify it where necessary, and, after endorsement, submit it to the Governor for inclusion in his total budget request to the Legislature.

(4) Once the Legislature has determined the appropriation for the SUS, the necessary revisions to the original budget request would be made immediately. This would be the foundation for the allocation of funds to the universities.

(5) Throughout the remainder of the year there would be constant monitoring of expenditures in light of the revised budgets. Although a lump-sum appropriation would allow some freedom in choosing priorities, such monitoring would provide assurance to the Legislature that monies were being expended as intended and also would provide a data base from which effectively to determine future funding needs.

(6) A data base containing the budgetary allocations and expenditures also would provide other meaningful statistical comparisons to be used in monitoring efficiency, and in comparing the results of activities within each institution of the SUS, among member institutions, and with units outside the System.

Student financial aid

Increased student financial aid has been a major factor in providing more student access to higher education. This Commission recommends continuation of a broadly based financial aid program that includes emphasis on loans and part-time employment as part of a total financial aid program for each student. The universities should make student financial aid available to part-time and nontraditional students on an equitable basis; provide new, more relevant financial aid systems for students of all ages; and provide for a variety of tuition payment methods, including installment payments. Additionally, this Commission is concerned that the financial aid programs in giving preference to full-time students from low-income families have neglected students from middle-income families and part-time students. Proposed new Federal programs may address this concern; however, this Commission recommends that Florida's student aid programs be reviewed after new Federal programs are adopted to ensure that the needs of all students are equitably met.

Students in Florida's public universities receive financial aid from federal, state, and university-based funds, and guaranteed loans from banks and other financial institutions. Aid from the first three sources includes both loans and direct grants or scholarships. The federal and university-based programs also include part-time employment programs. This Commission endorses the continuation of these financial aid policies and recommends that increased emphasis be given to student loans and part-time employment. Freshmen and sophomore students should receive priority in the awarding of scholarships and grants to give them time to become acclimated to university life and their academic programs.

Nearly all aid is distributed on the basis of financial need as measured by standardized assessment techniques. These multiple sources and types of aid have effectively eliminated financial barriers to higher education for most low-income, full-time students. There is some evidence, however, that students from middle-income families and part-time students do not receive adequate support.

In a study by Florida's Department of Education using 1974–75 data, the unmet needs were shown to be highest for full-time undergraduate students with family income between $12,000 and $15,000. For part-time students, that same study shows the greatest unmet need is for those students with family income under $9,000.

The participation rate of the poor in university education has risen dramatically. We must continue to expand this commitment to students from low-income families. Nevertheless, the time has also come to provide assistance to middle-income families who do not now receive such benefits but also need them.

Flexible fee policy

More factors than whether or not a course can be applied as credit toward a degree should determine what share of the course's cost is borne by the state. The state should initiate a flexible fee schedule that will enable the System to offer special courses, both credit and noncredit, with the cost being shared appropriately between the student (or the student's sponsor) and the state. The quality of instruction in these special courses should be as high as in any other course.

The policy regulating fees charged for instruction within the State University System now recognizes two classes of fees. If a course is offered for credit, the state pays most of the cost for the course; if the course is a noncredit course the state pays no part of the costs.

This Commission believes that other factors than credit should also influence how the costs of instruction are shared between the state and the students. Some courses not leading to a degree benefit society as much as or more than they benefit the student. Such instruction, even though it is in noncredit courses, should receive some state support. The student should not be required to cover the entire cost of such courses. Contrarily, some degree-oriented, credit courses cannot be offered by universities for the usual student fees because, if enrollments are small or equipment costs are high, the net costs to the state of those courses would exceed the amounts allowable. In such cases, if student demand for the course is great enough to support a higher than usual fee, then the course should be scheduled and a special fee should be allowed.

This Commission is aware that to negotiate the fee to be charged for every credit course would cause administrative problems. It is recommending that higher than usual fees for credit courses be allowed only in well-defined instances. For example, discussions between the university and its local community might establish a demand for a credit course at a higher than usual fee, a course that the university otherwise could not offer.

This Commission recognizes that more flexible fees schedules can come into force in two different ways. State support for noncredit instruction will require legislative action providing the necessary additional funds. After establishing a need for expensive credit courses, the Board of Regents may, within the framework of its administrative responsibilities and with legislative concurrence, implement a policy of variable fees. While the goal of any new policy of more flexible fee schedules is to provide students with access to desired instruction of every kind, the clear justification for state funding of noncredit instruction should be the benefits to the state and society.

Afterword

The Commission on the Future of Florida's Public Universities was convened by Chancellor E.T. York to reassess the role of the State University System in serving the citizens of Florida. The impact of a tightening economy on an expanding University System necessitated a re-examination of priorities and direction. The Commission was asked to consider and formulate recommendations on issues such as access to university programs and services, the relationship between the public and independent sectors of higher education, the role of university research and service programs in solving critical State problems, the enhancement of academic programs, the funding of higher education, and the contributions of public higher education to the social, cultural, and economic development of the State.

Donald Reed, Jr., former legislator and Chairman of the Ethics Commission chaired the Commission. George Baughman, noted educator and business consultant, served as Co-Chairman of the Commission. The staff of the Board of Regents assisted the Commission in its work.

The Commission determined it would work in three phases: first, the collection of information; second, the development of recommendations; and third, the preparation of a final report. During the first phase the Commission received over thirty hours of presentations on issues affecting the SUS. The Commission requested a continuous series of supporting documents and data in order to base its recommendations on the most current information available. Additionally, the Commission members met with State legislators; faculty, students, and administrators from the State University System; and representatives from the Departments of Education and Administration.

The Commission recognized three broad issues

affecting higher education today—quality, access, and finance. Subgroups were organized to study each of these major areas. Under the leadership of Sidney Besvinick, the Subgroup on Quality focused its attention on the factors needed for a quality higher education system. The Subgroup on Access, chaired by Elizabeth Metcalf, placed its emphasis on evaluating the accessibility of academic programs and services. The Finance Subgroup, under the direction of Howard Nix, Jr. and Al Warrington, considered the financial resources and information needed to allow the State University System to achieve desirable quality and access goals. Two members of the Board of Regents staff were assigned to each Subgroup to coordinate its activities and complete the required research and documentation. Beverly LaRock and Paul Parker worked with the Quality Subgroup, David Montgomery and Richard Hulet with the Access Subgroup, and Joseph Stafford and Susanne Fischer with the Finance Subgroup.

During their work sessions, the Subgroups delved into particular problems relevant to their areas and developed recommendations accordingly. Each group, however, found that the topics were not completely separable and the groups collaborated on overlapping areas. The final set of recommendations is the result of these joint efforts and represents the collective viewpoint of the entire Commission.

The Commission will follow the progress made by the System in achieving the goals set forth in this report and assist, whenever needed, in implementing its recommendation.